

STANLEY PARK MOBILITY STUDY

September 2025





Land Acknowledgment

The project area, Stanley Park, sits within the traditional, ancestral, and unceded territories of the Coast Salish peoples: the xʷməθkʷəy̓əm (Musqueam) Indian Band, Skwxwú7mesh Úxwumixw (Squamish Nation), and səlilwətaʔ (Tsleil-Waututh Nation), who have regarded this site and surrounding waterways as a significant place of gathering from time immemorial.

This was a place of bounty, used for harvesting food and resources, welcoming visitors and friends, and holding ceremonial gatherings. These lands and waterways continue to be the foundation of thousands of years of living Musqueam, Squamish, and Tsleil-Waututh culture.

Project Acknowledgments

The Stanley Park Mobility Study and its supporting documents were a cumulative and collaborative effort by the consultant team, staff at the Vancouver Park Board and City of Vancouver. The team would like to offer thanks to the x̣ẉməθḳẉəỵəm (Musqueam) Indian Band, Sḳẉx̣ẉú7mesh Úx̣ẉuṃix̣w (Squamish Nation) and ṣəḷiḷẉətạł (Tsleil-Waututh) Nation for their review, feedback and guidance. Thank you to all project interest holders and the public for taking the time to shape the future of Mobility in Stanley Park for everyone to enjoy.

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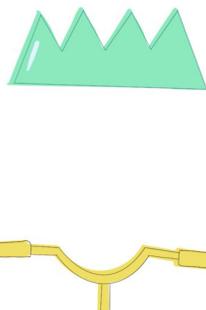
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Brockton Point Lighthouse (Photo by Emily Holmes)



Executive Summary

The Stanley Park Mobility Study was initiated by the Vancouver Park Board to analyze trends and develop a vision and phasing strategy for the future of Stanley Park’s transportation system over the short, medium, and long term. This Mobility Study Report is the key deliverable of the Stanley Park Mobility Study (the “Mobility Study”) and documents the overall process taken to analyze existing conditions, develop an evaluation framework, generate a list of mobility options, and refine options into a set of viable recommendations towards a future transportation plan for Stanley Park. The Study recommends a gradual, phased approach to implementation of mobility options, including piloting certain approaches.

Project Overview

The purpose of the Mobility Study is **to determine how to manage an increase in visitation without expanding road space, by identifying the potential opportunities and challenges of reducing private vehicle traffic, while exploring ways to improve access and enhance the experience of visiting Stanley Park.** This purpose is based on the need to study transportation identified through the Stanley Park Comprehensive Plan process, the context noted above, known challenges, and engagement with the Nations as rights holders, as well as with interest holders and the public.

The Mobility Study involved five key phases of work, which are depicted in **Figure 0.1** below. Findings from the data collection phase were produced in the Mobility Context Report published in March of 2023. This included an assessment of the historical and current state of transportation operations in the park, including visitation patterns, ease of access,

and the relationship of transportation operations to park economics. Key findings of the Mobility Context Report are summarized further in **Section 1.0** of this report. Following that work, foundational values were developed, and guiding principles for the future of mobility in Stanley Park were established.

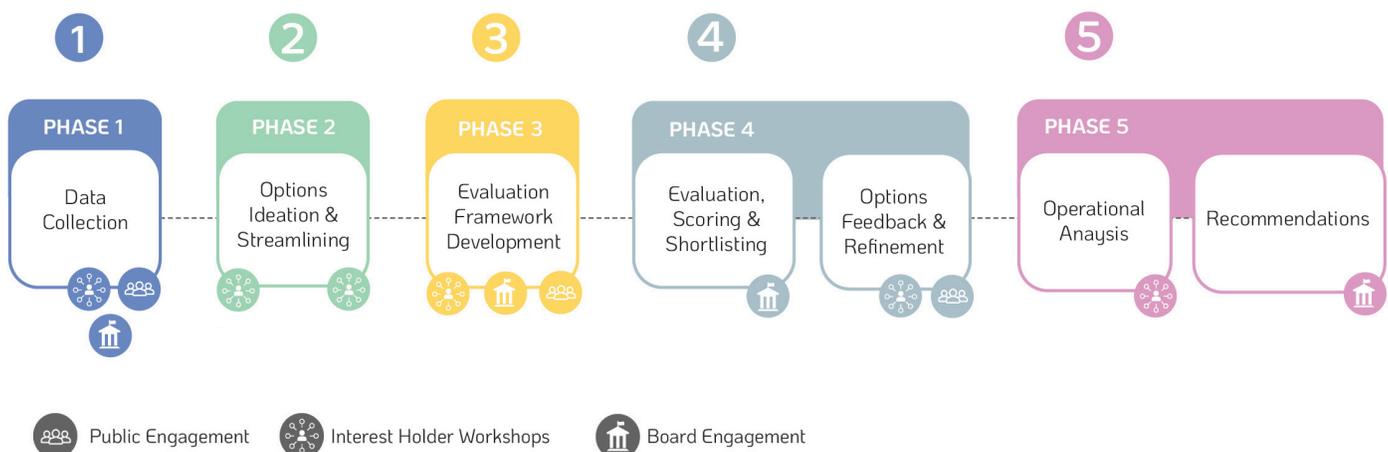
Foundational Values & Guiding Principles

All Mobility Study work has been underpinned by two foundational values of reconciliation and equity, and guided by seven guiding principles. The principles, as approved by the Park Board in July 2022, are: **safety, accessibility, economic vitality, climate action and environmental protection, a flexible and resilient system, a connected transportation network, and an enhanced park experience.**

Mobility Options

Building on the work reported in the Mobility Context Report and aligned with the guiding principles, a long list of 63 mobility options for transportation to, from, and within Stanley Park was developed. These options represented the broad spectrum of approaches that could reasonably be considered in both the short term and long term. The long list was filtered using a feasibility lens to identify fatally flawed options, which were subsequently removed from further analysis because of prohibitive costs or objectives conflicting with the study purpose. The result was a list of 21 core options that are mutually exclusive and include major changes to park transportation, 26 complementary options that could be implemented to support core options, and six broad recommendations that should be applied to all options.

Figure 0.1: Mobility Study – High-Level Process & Phases



Evaluation Framework

To identify those mobility options likely to be most effective in achieving the guiding principles, a multi-criteria evaluation framework was developed to score all 21 options. The purpose of the evaluation framework was to uphold the study intent and employ a structured decision-making process using public and interest holder values and applying data-driven approaches, which is why it was completed before the 21 core options were finalized. For each of the seven guiding principles, three to four indicators were established, resulting in a total of 27 indicators. A metric was developed to quantify option performance for each indicator.

Knowing that some principles are more important to certain groups, a survey was conducted where the public, the Nations community members, and interest holders were invited to rank the principles in order of importance. The results of the survey were used in the evaluation framework to pinpoint and understand tensions between the needs of user groups.

Options Evaluation

The set of 21 core options was put through an extensive evaluation process using the evaluation framework. This produced an assessment of how each option performed based on the guiding principles and a total score for each option, which enabled the creation of a final ranked list of the best to worst scoring options. The principles were shared in broad public and interest holder engagement, where priorities emerged and were used in the analysis of impacts on specific groups. This involved a weighting test to determine which options would provide the most benefit for the most groups, and which options were variable in who they best supported. Subsequently, materials on mobility options and their evaluation were disseminated to interest holders and the public through online surveys and in-person workshops.

Preliminary Options & Refinement

Eight preliminary options were shortlisted and presented to community and park interest holders for their initial feedback, after which the shortlist was refined with **six preliminary options** remaining, which were developed in more detail for the final round of public engagement:

Option	
A	Time-Based Vehicle Access Restrictions
B	Vehicle Time Slot Booking
C	Park Drive with Dedicated Bus Lane
D	Park Drive with Dedicated Bike Lane
E	Car-Free Park Drive with Dedicated Bus Lane & Dedicated Bike Lane
F	Car-Free Park Drive with Active Transportation & Transit/Shuttle Only

Feedback & Detailed Technical Analysis

An online public survey assessed level of support on the six potential options and gathered additional feedback. The survey showed that, while Option D (Park Drive with Dedicated Bike Lane) saw the highest level of public support, respondents also expressed concerns about its implementation cost and potential congestion related to the reduction in traffic lanes. Similarly, car-free Options E and F also saw high levels of support, but some respondents expressed concerns for those with mobility challenges who rely on vehicles to access the park. Overall, while the online survey indicated strong levels of support for car-light or car-free options, further work is needed to clarify specific expressed concerns from select groups and interest holders.

Other findings from detailed technical and operational analyses assessed how each of the mobility options could practically be implemented. These considered parking revenue, access to major destinations, transit, tour buses, and a one-lane capacity analysis, and indicated that more work needs to be undertaken before implementation of any one option.

Cyclists on the Stanley Park Seawall (Photo by Emily Holmes)



Glossary

Term	Definition
85th percentile speed	The speed at which 85% of drivers in a given context are travelling at or below.
AAA Cycling Facility	An All Ages and Ability cycling facility that is designed to be safe and comfortable for people of all ages and physical abilities, regardless of cycling experience, with specific design parameters in the City of Vancouver. ¹
Active Transportation	Any self-propelled, human-powered mode of transportation, such as walking or bicycling.
Core Option	A stand-alone option for mobility in Stanley Park that has park-wide impacts. An example would be a bike lane on Stanley Park Drive.
Complementary Option	A complementary option for mobility in Stanley Park that has localized impacts and that can be mixed and matched with other options. An example would be adding bus stops along the Causeway.
Roadway Capacity	The maximum number of vehicles that can travel on a given roadway in a specified time frame, usually per hour or per day.
Highway Capacity Manual	A design guidance publication containing broadly accepted computational methods for measuring road network performance in North America.
Interest Holder	Person or group that has an interest in, or is affected by, a project. In total, 56 interest holder groups from varying community, business, transport advocacy, and other groups were engaged for the Stanley Park Mobility Study. During the engagement period, the term ‘stakeholder’ was used, but as we move away from colonial language, we have shifted to the use of ‘interest holder’ in this report.
Micromobility	A mode of transportation that uses small, lightweight vehicles driven by users personally. E-scooters and electric skateboards are some of the most common local examples of micromobility.
Mobility Context Report	The report on the first phase of the Stanley Park Mobility Study, presented to the Park Board in March 2023 and documenting existing travel patterns and transport infrastructure in Stanley Park.
Rights Holders	Rights holders are persons/groups that have legal rights to something, such as property, intellectual property, or human rights. Stanley Park is within the unceded territories of the x ^w məθk ^w əy̓əm (Musqueam), Sk̓wx̓wú7mesh (Squamish), and səliłwətał (Tsleil-Waututh) peoples (referred to herein as “the Nations”).
Qualitative Metric	A metric that is typically described or interpreted.
Quantitative Metric	A metric that can be measured or counted.
Travel Mode	A way to move people or goods (e.g., walk, bike, drive).

¹ <https://vancouver.ca/files/cov/design-guidelines-for-all-ages-and-abilities-cycling-routes.pdf>

Stanley Park Horse-Drawn Tour (Photo by Emily Holmes)



1

Introduction

Stanley Park is situated immediately northwest of downtown Vancouver, next to the vibrant and densely populated urban neighbourhoods of the West End and Coal Harbour. While it is often considered a backyard for these residents, it is also valued by visitors from across Metro Vancouver, across Canada, and around the world. The memories and experiences of these many visitors add to the long presence of the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh

(Squamish), and səlilwatał (Tsleil-Waututh) peoples, on whose traditional and unceded territory Stanley Park is located. Shaping these histories is its unique geographical location—a peninsula reaching out toward the Salish Sea and North Shore mountains. Its location contrastingly offers respite from the dense urban context, while also being bisected by the Stanley Park Causeway connecting downtown Vancouver to the North Shore.

Aerial View of Stanley Park



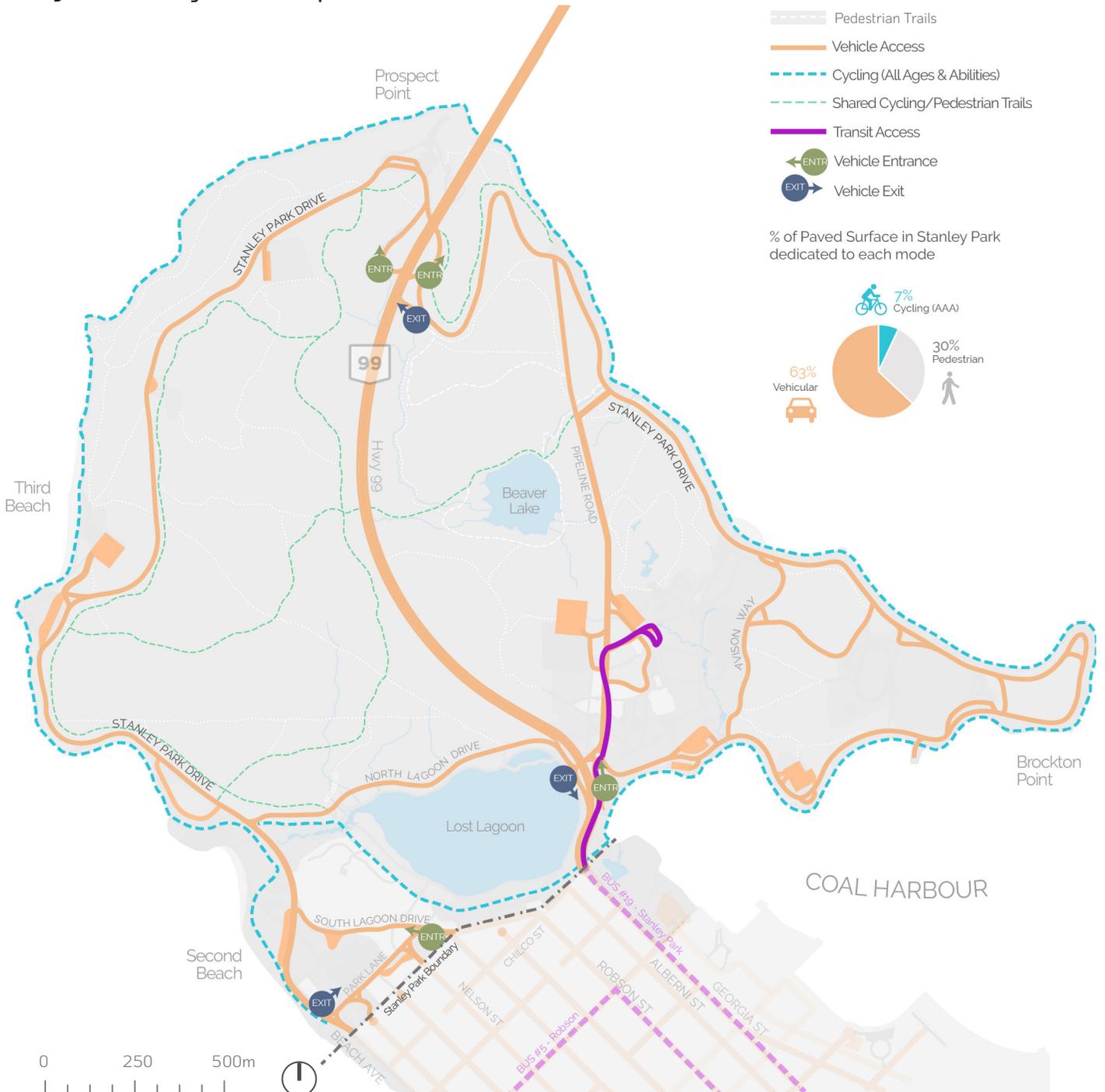
Source: User edb3_16 on Deposit Photos. <https://depositphotos.com/photo/aerial-view-from-airplane-of-vancouver-downtown-british-columbia-canada-466218490.html>

1.1 Stanley Park’s Transportation System

Stanley Park’s internal transportation system is largely characterized by the Seawall, which comprises an 8-kilometre uninterrupted walkway and a counter-clockwise cycling path that outlines the park along the shoreline of the Burrard Inlet and English Bay. Somewhat parallel to the Seawall is the counter-clockwise two-lane Stanley Park Drive that also circles the park periphery. There are numerous trails that criss-cross the interior of the park, and several

additional two-lane roadways that run through the eastern portion of the park. These facilities support varying levels of access for different modes of transportation, including for people walking or rolling; people using bikes, scooters, and other micromobility modes; tour buses, taxis, and ride-hailing vehicles; and private vehicles. Due to Stanley Park’s landform as a peninsula, road network connections to the park are limited. Public transit access is currently limited to one small section just east of the centre of the park as shown in **Figure 1.1** below.

Figure 1.1: Stanley Park’s Transportation Context



Access to, through, and into Stanley Park has been the subject of ongoing study and community discourse since its colonial inception. In 1888, First Nations villages were forcefully removed to make way for the park's dedication, evictions of additional "undesirable settlers" and "squatters" occurred, and homes were torn down in order to build Stanley Park Drive.² The goal was to create a horse and carriage pleasure drive around the park for wealthier visitors. The park was opened by Lord Stanley, who proclaimed it for "*the use and enjoyment of people of all colours*".³ However, long-standing residents were removed to build the road, including some who were in their homes when the bulldozers came. The builders came across midden sites containing deposits and ancestral remains, which were unfortunately dug up, and abhorrently crushed up and used for the road base underneath the paving of Stanley Park Drive. Today, the Park Board has improved archaeological protocols in line with requirements of the Province of B.C. as part of their commitment to reconciliation. Changes to Stanley Park Drive now must consider the archaeological impacts of any changes, given the history and the displacement of archaeological remains.

1.2 Why Study Mobility?

Mobility—the ability to move—is a key component of access. As such, questions around access and mobility are closely linked. A transportation system, and the infrastructure and services it consists of, plays a large role in shaping the experience, management, and physical manifestation of Stanley Park. Given the park's unique geographical location and its variety of amenities, attractions, and spaces, mobility and access vary significantly for each visitor.

A typical goal when developing transportation systems is to provide access for all people. However, with geographic, spatial, and resource limitations, achieving such a goal requires a thoughtful review of existing access and mobility patterns, infrastructure, and, in many cases, trade-offs. Moreover, it requires a recognition that many transportation systems have historically favoured the needs of some modes (and the people who use them) over others. Since its creation, access to Stanley Park has historically focused on vehicular travel; however, not all visitors can drive or have access to private vehicle mobility. In order to increase access by vehicle, additional roads and parking lots would be required in the park. This context contributes to formulating the purpose of this study.

1.2.1 The Tourism Paradox

The appeal of Stanley Park is driven by the value of its natural and cultural features, which has attracted an unprecedentedly high 18 million annual visitors in 2021. However, the ever-increasing number of visitors has begun to impact the condition and sustainability of the same features which attract them — a phenomenon referred to as the "tourism paradox". As the West End densifies and demand for tourism within the region increases, visitation is only expected to increase. Diligent planning can protect the natural features of Stanley Park from overuse for the benefit of all visitors for generations to come.

Many places around the world that experience a high number of visitors are starting to implement a variety of measures to manage the level of visitation. The goal is to enable visitors to continue to enjoy these destinations while protecting the environments that people are coming to visit. With an increase to 4,000,000 visits per year, Banff National Park (Lake Louise and Moraine Lake) recently made major mobility changes including paid parking, parking restrictions, new shuttle services, and road closures. In 2021, after receiving 297 million recreation visits where even those typically quieter off-seasons ceased to exist, the US National Park Service made changes to management plans including access restrictions to accommodate this year-round demand. The Trevi Fountain in Italy recently constructed a gateway around a public plaza fountain to ensure a more managed visitation and reduce the rate of destruction of cultural heritage attributes. Increased visitation in Stanley Park will need to be managed, and a major component of that is access and mobility.

1.3 Project Background

The Mobility Study was conceived out of a need to protect Stanley Park's natural and cultural features long into the future.

² Park Board *VanPlay Strategic Bold Moves Report* October 2019, Pg 21

³ Canadian Encyclopedia 2008, *Lord Stanley*, www.thecanadianencyclopedia.ca

1.3.1 Stanley Park Past Work

Discussions on studying mobility in Stanley Park first arose during the planning stages of the Stanley Park Comprehensive Plan – a collaborative project between the Park Board and the xʷməθkʷəy̕əm (Musqueam), Skwxwú7mesh (Squamish), and səliłwətał (Tseil-Waututh) Nations to establish a 100-year vision, guiding principles and a plan for managing the park’s stewardship into the future. In those initial discussions, it was determined that Stanley Park is sufficiently large and popular that a long-term vision for the park would require extensive understanding and future planning of how people access and move around the park.

As work progressed on the Comprehensive Plan, the COVID-19 pandemic showed that there was also strong public interest in the future of mobility in Stanley Park. During that time, residents who faced travel restrictions opted to frequent local parks and outdoor spaces, resulting in a surge of visitors to places like Stanley Park. To enable physical distancing with the new visitation volumes, motor vehicle access to Stanley Park was closed to the public, with roadways remaining open to cyclists to reduce crowding on the seawall. This reduction in motor vehicle traffic in Stanley Park increased active transportation and was well-received by many, with comments that fewer vehicles made visiting a more park-like experience.

In response to the transportation changes made to the park and the public response it elicited, the Park Board passed a motion in June 2020 to “explore the long-term feasibility of reducing motor vehicle traffic in Stanley Park, including but not restricted to, reducing roadways to single lanes while maintaining access to the Park, while increasing accessibility for those with disabilities”.

1.3.2 Purpose of the Mobility Study

Based on the Park Board motion, the Stanley Park Comprehensive Plan, interest holder and public engagement, and known challenges (listed above), the purpose of the Stanley Park Mobility Study is to:

- Determine how to handle increases in visitation without expanding road space.
- Understand potential opportunities and challenges of reducing private vehicle traffic in Stanley Park.
- Explore ways to improve access into Stanley Park.
- Enhance the experience of visiting Stanley Park.

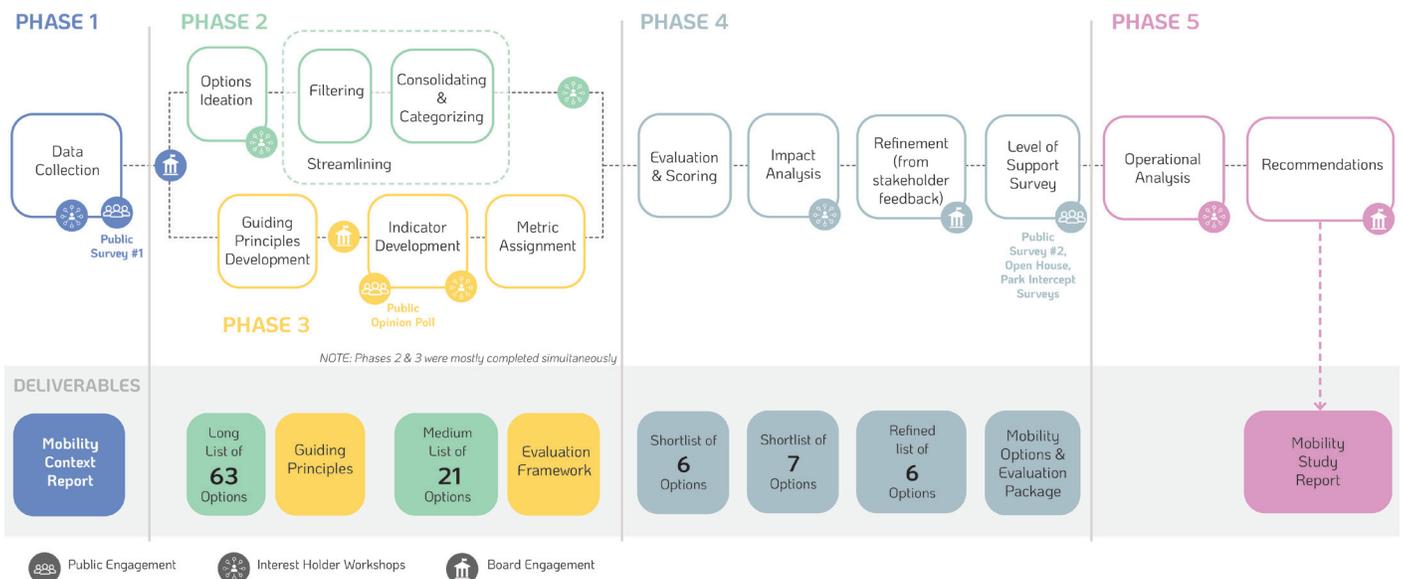
1.3.3 Project Process & Key Deliverables

The Stanley Park Mobility Study project (the “Mobility Study”) was a multi-phase project as depicted in **Figure 1.2** below.

In early phases of the project, the Mobility Study assessed the current state of mobility in Stanley Park and developed core principles that would guide the future planning of mobility in Stanley Park. The outcomes of these processes have been reported through the Mobility Context Report and are summarized in **Section 1.4** below.

In later phases of the project, the Mobility Study developed an evaluation framework, generated a list of mobility options, and refined options into a set of viable recommendations towards a future transportation plan for Stanley Park. The outcomes of these processes are reported in this concluding Mobility Study Report.

Figure 1.2 Mobility Study – Detailed Project Process Diagram



1.4 Existing Conditions – Key Findings

Stanley Park has been studied and analyzed since its conception as a park. This includes impacts on the park experience documented at various times, including congestion, safety, noise, and pollution concerns. In response to this, studies since the 1980s have explored options to reduce private vehicle traffic in the park while maintaining access for all park users. This first project phase was built on previous work and assesses the existing mobility context of Stanley Park using a variety of data sources. Below are some key take-aways from the Mobility Study Context Report:

- **Car-light is trendy in urban parks:** Many landmark urban parks in cities around the world have taken measures to reduce private vehicle trips to the park in recent years. In some parks, car-reduction measures, including closure of roads to vehicles, sometimes coupled with the expansion of transit or shuttles, were implemented in response to the COVID-19 pandemic.
- **Visitation to Stanley Park is ever increasing:** Prior to the onset of the COVID-19 pandemic, in 2019, approximately 17.1 million trips were made to Stanley Park. The number of annual visitors fell in 2020, but visitation levels in 2021 surpassed that in 2019, with an estimated 18.0 million annual visitors in 2021. Analysis has shown that, in 2021, about 48% of trips to Stanley Park were made by locals who live within 10 kilometres of the park, and approximately 9.5 million different people visited Stanley Park.
- **Disability needs can be vastly different:** 80% of park users with a disability that impacts their mobility visit the park by private vehicle as a group (i.e., two or more people), demonstrating a need to provide access, given barriers to using active transportation. However, one in five residents with an ambulatory disability accessed the park without using motorized modes, highlighting the varied needs and preferences of persons with disabilities.
- **Seniors need options:** Senior citizens have a greater reliance on vehicle travel to access Stanley Park as vehicle passengers than the general population. This may indicate a greater need to provide seniors with motorized transportation options that do not require them to operate the vehicle.
- **Active transportation has grown:** The share of visits made by active transportation has increased significantly over the last 40 years, with cycling doubling, and walking increasing about threefold from 1980 to 2019. The pandemic has bolstered these trends.
- **Locals versus tourists:** International visitors tend to frequent attractions in the eastern and northern areas of the park, such as the Aquarium and the totem poles at Brockton Point, whereas local visitors tend to frequent destinations in the western and southwestern areas of the park.
- **Transit is not used by frequent visitors:** People who walk to access the park are the most frequent visitors, while public transit users are the least frequent visitors.
- **Spending money in the park changes by mode:** Based on existing mode share and visit frequency, people who access the park by vehicles with passengers and in larger groups spend the most money in Stanley Park over the course of a year. They are followed by active transportation and micromobility users. People who access the park by vehicles without passengers spend about half the amount that active transportation users do.
- **Stanley Park contributes significantly to the visitor economy:** The park generates local economic activity of over \$300 million annually and with incalculable community, cultural, and recreational value. This also means that the benefits are distributed broadly across the public, in ways that do not relate directly to individual use or costs. This is much like other public goods, including most of the other parks in the city. That Stanley Park is saddled with generating revenue directly, while many other parks are not, makes it an anomalous case. Given Stanley Park's significant, demonstrated benefit, there may be a strong case for direct revenue to be supplanted by more general taxation sources.
- **Parking capacity is sufficient overall:** Overall, parking occupancy did not exceed capacity throughout the busiest months, suggesting that current parking capacity is sufficient for the park overall. Parking demand does approach available capacity in some lots at the busiest times, which may lead to localized congestion during peak periods.
- **Vehicle road space versus traffic volumes:** A comparatively large amount of all paved space in Stanley Park (about two-thirds) is intended for vehicular access in the park. Meanwhile, large vehicle volumes typically only occur during short peak times on weekends in the summer season. The park's road network operates with no vehicle congestion at almost all times.

1.5 Collaboration with the Nations

As alluded to in the introduction above, Stanley Park is a significant place to the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and səliwətał (Tsleil-Waututh) Nations (referred to throughout the rest of this report as “the Nations”). The Vancouver Park Board formed the Intergovernmental Working Group for Stanley Park, with its main function to collaborate on the Stanley Park Comprehensive Plan. Through this work, the Nations have been supportive of planning for the future of Stanley Park that supports its sustainability long into the future. The need to study Stanley Park’s mobility was identified within the work on the Inventory & Analysis of the Comprehensive Plan and was formed in part from this perspective of park conservation.

Throughout the Mobility Study process, the project team met with the Stanley Park Intergovernmental Working Group, providing updates, seeking feedback, and ensuring the project direction was in line with the Nations’ perspectives of Stanley Park. Broader Nations community feedback was sought through the Park Board’s first Nations Community Member survey, where members were asked to prioritize the guiding principles and provide general feedback on what the Mobility Study should hope to achieve. Summaries of this information can be found further in this Mobility Study report as well as in the engagement summaries (Appendix L - [Phase 1 & 2 Engagement Summary](#)⁴ and Appendix M - [Phase 3 & 4 Engagement Summary Report](#)⁵).

Figure 1.3: Indigenous People Canoeing Near Brockton Point



The main mode of transportation for Musqueam, Squamish, and Tsleil-Waututh peoples before colonization was by water. Canoeing is a special cultural practice that was also a sustainable form of transportation.

Source: “Canoes and boathouse at Brockton Point.” City of Vancouver Archives. <https://searcharchives.vancouver.ca/canoes-and-boathouse-at-brockton-point>

⁴ <https://syc.vancouver.ca/projects/stanley-park-mobility-study/stanley-park-mobility-study-phase-1-phase-2-engagement-update.pdf>

⁵ <https://syc.vancouver.ca/projects/stanley-park-mobility-study/stanley-park-mobility-study-phase-3-and-4-engagement-summary.pdf>

1.6 Public & Interest Holder Engagement

1.6.1 Building on Past Engagement

As apparent through the COVID-19 pandemic response and temporary bike lane projects in Stanley Park, there is a high degree of public interest in Stanley Park's mobility. In September of 2020, a survey was launched to ask about perspectives on the pandemic response, which resulted in the Park Board's highest response rate for any survey, at over 11,000 responses. This reflects the passion people have for Stanley Park in general and how to access it.

Engagement provided key inputs throughout the work of the Mobility Study, informing the process for the development of the evaluation framework, technical evaluation, recommendations, and proposed phasing strategy. Therefore, engagement is referenced throughout this report, but the following sub-sections provide an overview of each form of engagement.

For further details on each phase of the project and the engagement work, details, and outcomes, refer to the following attached reports:

- **Phase 1 & 2 Engagement Update** summarizes the engagement activities in earlier stages of the Mobility Study that led up to the Mobility Context Report.
- **Phase 3 & 4 Engagement Summary Report** provides details of the outcomes of all engagement in shaping the mobility options.

1.6.2 Interest Holders

Amongst the public are key groups, businesses, and organizations that have both an intimate knowledge of Stanley Park's mobility and are likely to be impacted by its future. Therefore, interest holder engagement was a critical component throughout the project. Interest holders were first engaged through three separate cohorts, given the differing needs, perspectives, and impacts of any future plans:

- **Park Interest Holders** – Park interest holders are defined as those businesses and organizations that operate within Stanley Park. Users and staff of these businesses and organizations rely on a certain level of access to and throughout Stanley Park. These interest holders include businesses, recreational groups, and operation and government agencies.
- **Community Interest Holders** – Community interest holders are organizations or groups that represent the vast array of visitors to Stanley Park, including different community groups ranging from seniors to youth groups, equity-denied groups such as the LGBTQ2S community and new immigrants, mobility advocacy groups,

and general tourism agencies.

- **Events Interest Holders** – Events interest holders are organizations that run events in Stanley Park. A total of 32 event interest holders were engaged on the project.

A total of 110 organizations/businesses were consulted through face-to-face virtual and in-person meetings, and another 40 organizations were kept informed on the project through mail outs, notifications of surveys, and questionnaires, for a total of 150 organizations/businesses consulted and informed throughout the project. The needs and opinions of this large group of interest holders varied significantly.

To ensure inclusion of this diversity of perspectives, the engagement process for the Mobility Study started with independent meetings, interviews, and listening and learning sessions as a way to deeply understand perspectives, while also providing a fulsome overview of the project and an understanding of its potential in aligning with perspectives. This evolved into workshop-style meetings, at first catered to each interest holder type (park or community) as ideas and options were being generated, and then ultimately into a series of combined workshops with all consulted interest holders, bringing everyone together to share and exchange.

1.6.3 Public Engagement

Public engagement played a crucial role in the project process, knowing how important Stanley Park is to the hearts of visitors, and knowing that a strategy or plan doesn't hold as much weight or foster action if it's not endorsed by the public at large.

Two city-wide public surveys were launched during the course of the project, with over 10,000 responses in total. The first survey during the data collection phase, which yielded 4,036 responses, asked respondents a number of questions to understand how people currently use and access Stanley Park. The second survey, which yielded 6,095 responses, was to understand the public's perspectives and level of support for six mobility options. In between these two surveys, a statistically representative opinion poll of 2,000 residents in Vancouver and Metro Vancouver using closed and open-ended questions revealed what is truly important to people and ultimately helped staff through the evaluation phase to analyze the importance of some indicators over others.

The public surveys, opinion polls, and intercept surveys during the project as well as past surveys during the pandemic provided a total tally of over 25,000 responses, making Stanley Park's mobility the most publicly surveyed subject in the Park Board's history.

1.6.4 Board Engagement

Engagement with the elected Park Board is a public-facing and important tool for keeping both the Board as well as the public up to date on the progress of work. Throughout the project, the elected Park Board was regularly updated in the form of public regular Board meetings and official memos, and consulted in the form of public committee meetings and reports. Major Board updates on the project (presentations for information or reports for decision) have been completed at every phase at key milestones, including one in 2022 during Phases 1 & 2 to approve the findings from the Mobility Context Report and to approve the seven guiding principles. During Phase 3, the Board received a public update on the evaluation framework and the list of 21 options. During Phase 4, the Board received a public update on the six mobility options before they were taken to the public for feedback. The final Board update and decision in Phase 5 is pending, following the decision on this final Mobility Study report. For a detailed schedule of updates at various stages of the project, refer to **Figure 1.5**.

1.6.5 Engagement with TransLink

In order to explore the viability of expanding transit in Stanley Park, collaboration with TransLink and the City’s transit division was a critical component of the project. Over the course of the project, meetings were held with TransLink to provide an overview of the project and goals, sharing up-to-date data on park mobility and visitation in the park, updates on the options being explored, and gathering feedback. Through this process, TransLink elevated their planning work to focus on short-term and long-term goals as well as on the potential for expanding transit in Stanley Park. TransLink benefits from local governments making decisions about the future direction of the local mobility landscape—as is being done in the Mobility Study—so they can focus on more detailed work on the viability of transit expansion.

Figure 1.4: Interest Holders Engaged Throughout the Process

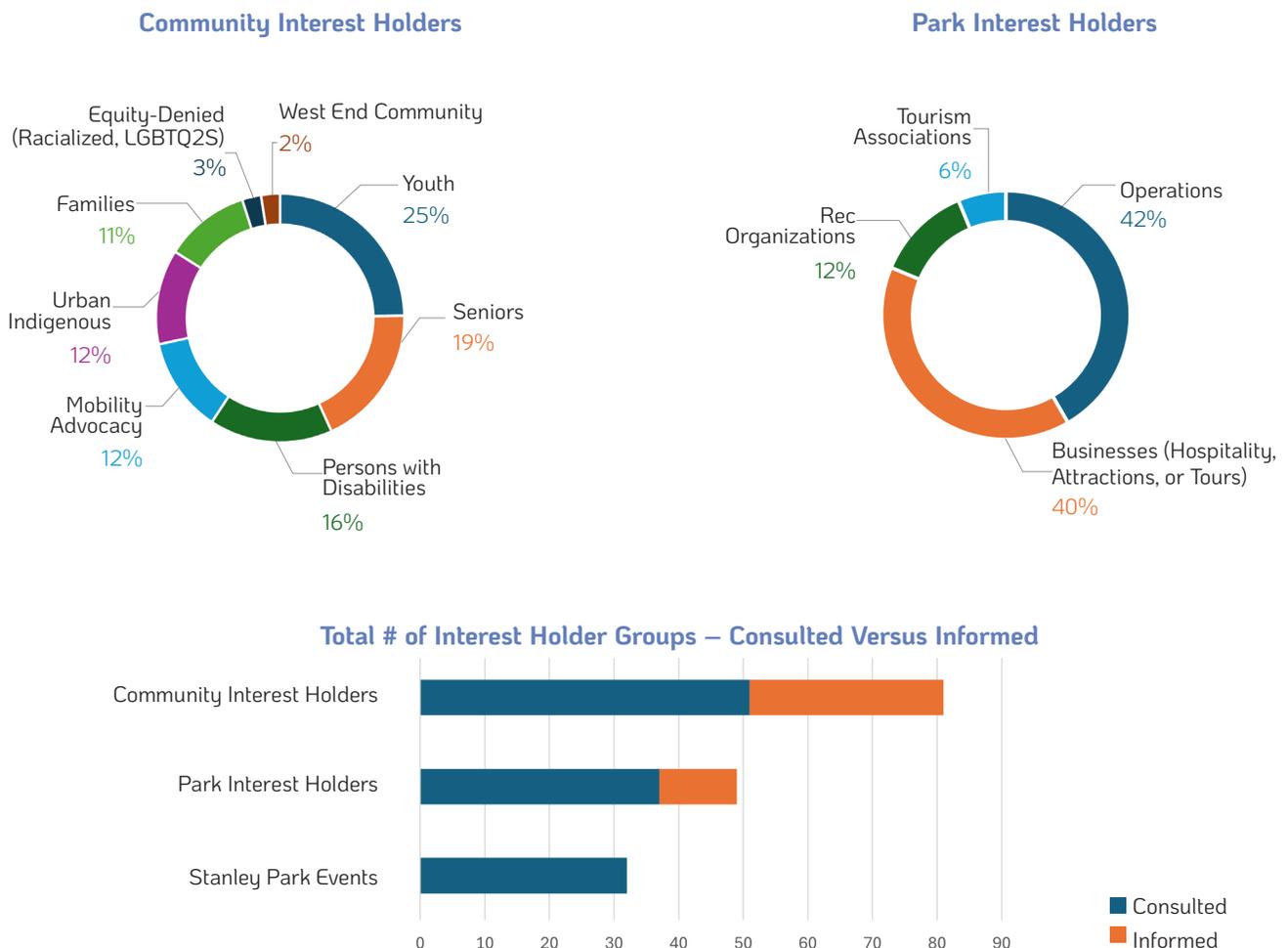
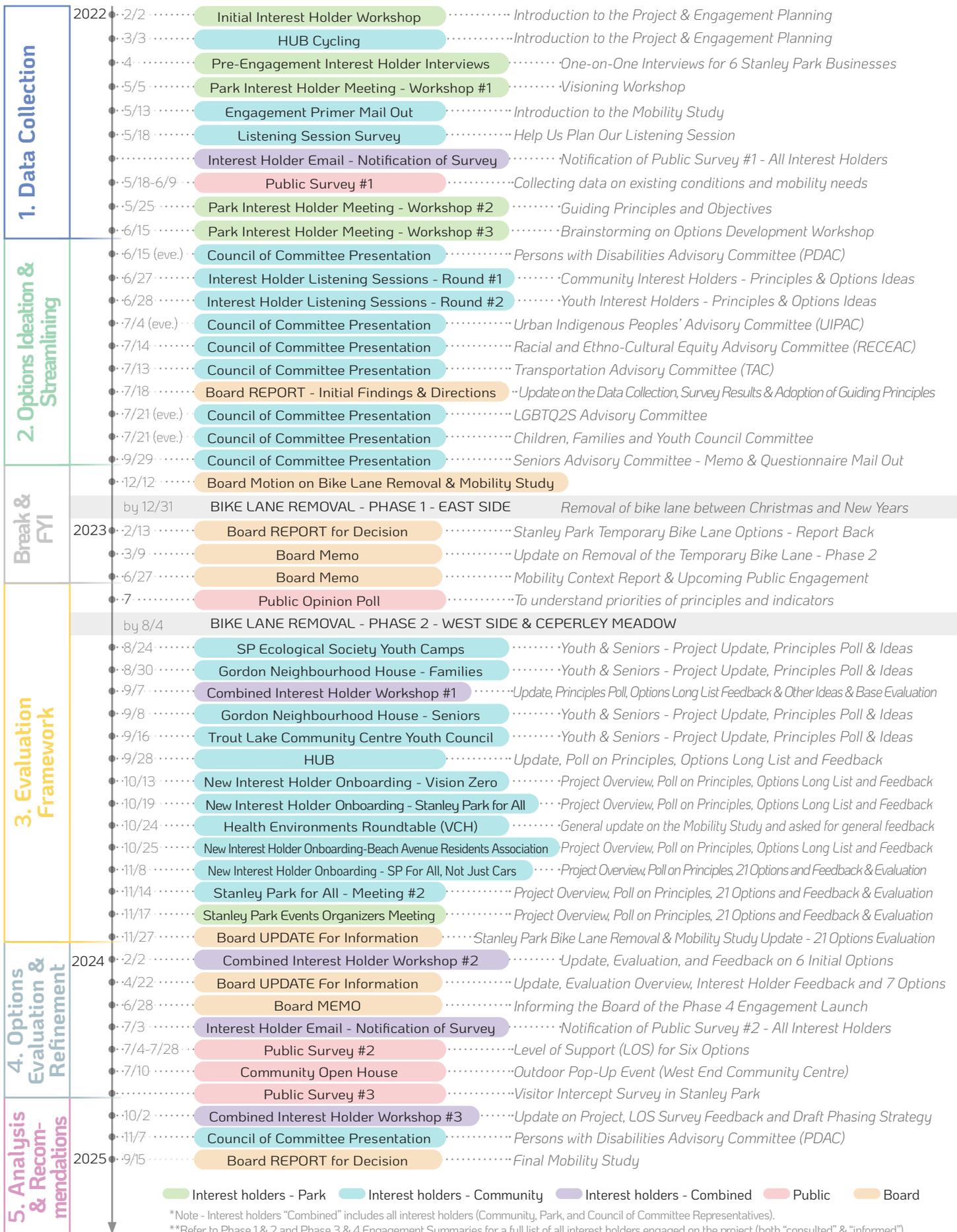


Figure 1.5: Engagement Activities Throughout Project



1.7 Foundational Values & Guiding Principles

Using existing conditions data, and subsequent interest holder and public engagement, a set of two foundational values and seven guiding principles were developed. All future work on the Mobility Study was underpinned by these values and further evaluated using the principles. The two foundational values of reconciliation and equity were created as “non-negotiables”, aligned with the Park Board’s vision, as outlined in VanPlay. With the adoption of these foundational values, the Park Board committed that all options proposed moving forward would have to contribute to these values and their advancement in Stanley Park.

1.7.1 Foundational Values

The following two foundational values were established, committing that any options recommended would advance these ideas in Stanley Park:

- **RECONCILIATION** – Stanley Park is a significant place to the Musqueam, Squamish, and Tseil-Waututh people. Through ongoing work with the Nations at the Stanley Park Intergovernmental Committee and Working Group, understanding the history of how the park’s transportation infrastructure has impacted the Nations and their ongoing access and cultural practices in the park is an underpinning consideration in all options that will be explored as part of the Mobility Study.
- **EQUITY** – Park users can have very different needs and experiences in the park. Not everyone can easily access the park, particularly those who live further away and cannot or choose not to drive and struggle to experience the park as a result. This work seeks to advance equity in process and outcome, such that those with limited ability to currently access the park are centred.

Stanley Park Roadway (Photo by Emily Holmes)



1.7.2 Guiding Principles

The seven guiding principles listed below were approved by the Park Board in July 2022 and ultimately used to create the framework to evaluate the quality of each mobility option. The order and numbering of these principles is for simplicity, and not intended to indicate a level of priority or greater value.



Pedestrian Trail, Stanley Park (Photo by Emily Holmes)



1. Safety

To create a safer mobility environment, this principle communicates the aim to reduce potential conflicts between diverse users, enhance user comfort through all times of the day, and maintain a network that supports access for emergency response.



2. Accessibility

This principle communicates the prioritization of the needs of users who face increased barriers accessing locations in the park and increases universal accessibility by design. This principle recognizes the diverse accessibility needs for persons with disabilities, with an awareness that multiple approaches will be required/need to be considered.



3. Economic Vitality

This principle communicates the maintenance of economic vitality by recognizing the contributions of existing and future opportunities enabled by Stanley Park. This principle also centres the natural value of Stanley Park as a key contributor to the regional economy and explicitly considers the financial implications of proposed options on Park Board budgets and services.



4. Climate Action & Environmental Protection

By reducing private vehicle traffic, actions can contribute to bold climate action and decrease carbon emissions, air and noise pollution, and water contamination. Lower demand for paved surface area can unlock the potential to decrease pavement and increase natural areas, sequester carbon, and safeguard Stanley Park's core natural value.



5. A Flexible & Resilient System

To accommodate different levels of user activity over the course of a day, a week, a year, and into the future, the transportation network will be planned and designed for different uses, needs, and demands. With increased flexibility, the transportation network can better respond to changes in the park as well as negative impacts such as storm surges and sea level rise into the future.



6. A Connected Transportation Network

This principle states that the existing transportation network will evolve into one that provides more direct routes, is more intuitive for users, and enables improved connection to the city's transportation system. This will consider the need to support public transit operations. This future network—one that provides access for all—will require innovative ways to manage access.



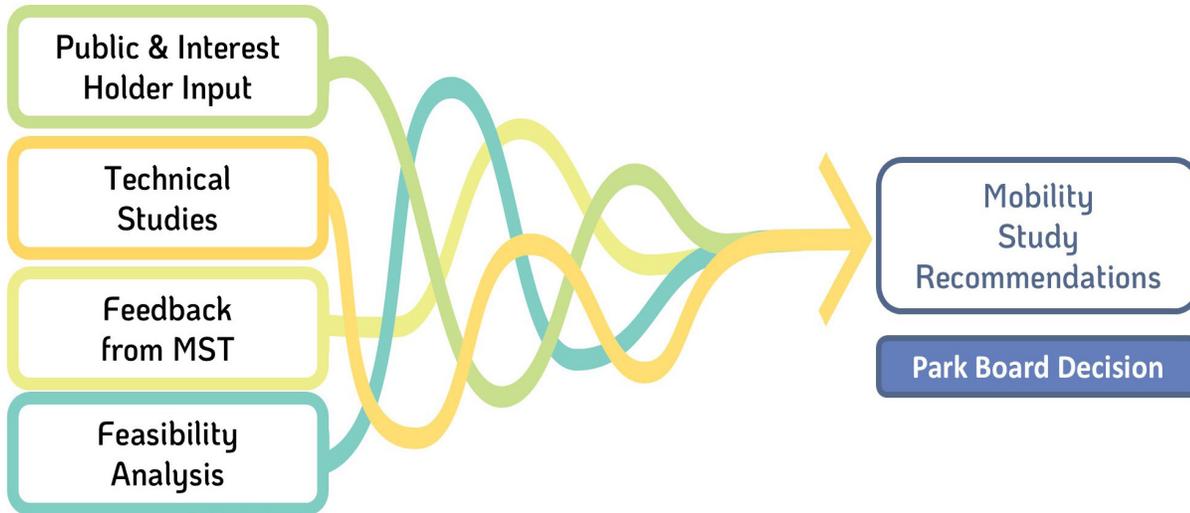
7. An Enhanced Park Experience

The options will consider what people love and appreciate about Stanley Park, and how to enhance experiences.

1.8 Consolidated Process Overview

Information gathered from public and interest holder input, technical studies, feedback from the Nations, and feasibility analyses were then used as an evidence basis to assist defining Mobility Study recommendations, as visualized in **Figure 1.6** and outlined in **Section 6**.

Figure 1.6: Visualizing the Recommendations Development Process



2

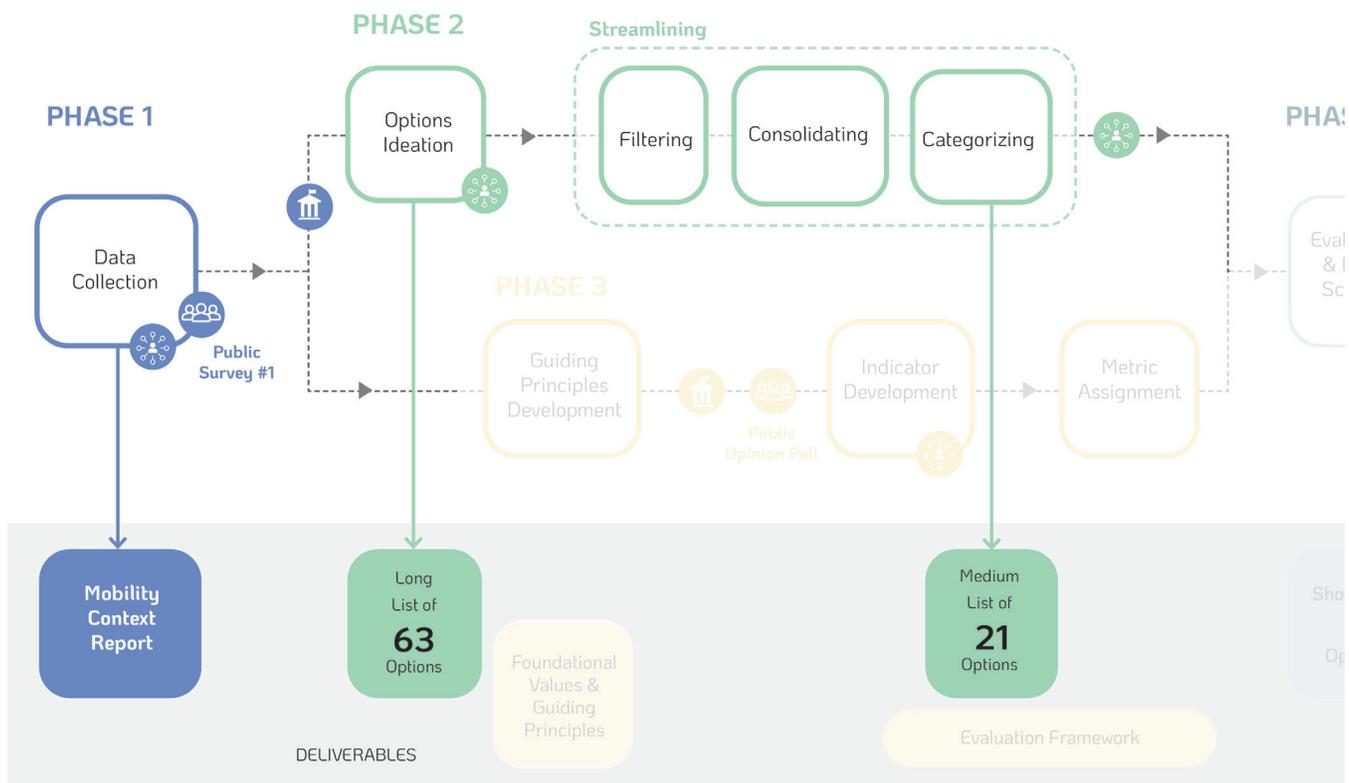
Creating Mobility Options

Following the data collection work reported in the Mobility Context Report and the adoption of the foundational values and guiding principles, the process of developing new approaches and options in Stanley Park began. This section details the methodology used to collect all ideas generated to date for the park’s mobility, and how a longer list of options was further refined and reduced to a manageable list of 21 core options for evaluation. **Figure 2.1** below outlines the process for creating mobility options (noted as Phase 2 in green) and is described throughout this section.

2.1 Ideas Generation

Stanley Park has long inspired many opinions, thoughts, ideas, and beliefs about what is best for the park, and the Mobility Study had abundant past work to draw from. This process relied substantially upon the creativity of interest holders, the Park Board Staff Steering Committee and Working Group, and past ideas from previous public engagement and case studies collected in the Mobility Context Report.

Figure 2.1: Creating Mobility Options Process



Options were collected through a series of brainstorming sessions focused upon how to improve access to Stanley Park, considering the future of mobility in the park, and determining what could be practically achieved within the existing footprint of Stanley Park Drive. Ideas were generated through:

- Engagement with park interest holders, including businesses, recreation organizations, Stanley Park Intergovernmental Committee, and operational interest holders.
- Two listening sessions with equity-denied and underserved community groups (which included families, new immigrants, seniors, and youth).
- A review of case studies of other cities changing their mobility patterns or implementing car-light or car-free approaches.
- Three meetings with the Park Board Mobility Study Steering Committee.
- Three workshops with the Mobility Study Park Board Staff Working Group.

This process generated a “long list” of over 60 initial options and ideas for mobility in Stanley Park, which can be found in **Appendix A**. However, these options varied significantly in their feasibility, and whether it was realistic to implement them within the foreseeable future. They also varied in their applicability and scale across the park. Some of the options were conceptually very similar to each other and an evaluation would probably yield near-identical results. The following sections describe the filtering, consolidation, and categorization processes that enabled a reduction of the long list of options down to a more manageable set of 21 core options that could then be technically evaluated.

2.2 Streamlining Processes

Knowing that a long list of over 60 options would be too complex to evaluate in detail, efforts were made to reduce this list in preparation for further evaluation and engagement. The following processes were undertaken to streamline the long list into a shortlist of 21 options.

2.2.1 Filtering

Options were put through a “filtering” exercise, using a “fatal flaw” analysis to determine if any options had a potential shortcoming impacting their feasibility such that, in the context of this study, would preclude them from further consideration. Fatal flaws include such characteristics as prohibitive capital costs, requiring extensive policy change outside of Stanley Park, high construction complexity, or impacts that were not compatible with the project values and principles. For example, any ideas that centred around the removal of the Causeway and the Lions Gate Bridge were seen as having a fatal flaw, given the extensive implications and scope of work from a political, transportation planning, and construction perspective almost entirely outside of the Park Board’s control. The remaining options were seen as technically possible and within the Park Board’s purview.

2.2.2 Consolidation

Some options were very similar from an evaluation perspective. For example, implementing shared microtransit was very similar to implementing a shuttle bus, in that they both have similar requirements from a transportation design perspective and their outcomes would be very similar. These two options were therefore consolidated into one option.

2.2.3 Categorization

Options were then assessed in terms of “scale” and “scope” to determine whether they should be considered as a *Core Option* or a *Complementary Option*. In this process, scale referred to whether an option had a park-wide impact or a localized impact, whereas scope referred to whether an option could be implemented with or without the simultaneous implementation of another option (i.e., a “stand-alone” option or a “supportive” option). **Table 2.1** below provides a more detailed explanation of a *Core Option* versus a *Complementary Option*.

Through this process, a list of 21 core options and 26 complementary options emerged.

Table 2.1: Difference Between a Core Option & a Complementary Option

Core options	Complementary options
<ul style="list-style-type: none"> • Park-wide impact • Stand-alone (mutually exclusive) • Defined 	<ul style="list-style-type: none"> • Localized impact • Supportive (can easily mix and match) • Undefined
Example – Bike Lane on Park Drive	Example: Bus stops on Causeway (Hwy 99)

2.3 Core Options

The resulting set of 21 core options are listed in **Table 2.2** below. These options were grouped into “families”, as shown in the table, in anticipation of this future evaluation.

The organizing tool of option families was used for efficiency in the evaluation, so that options with similar characteristics could be analyzed and scored

in groups where appropriate. This is why the option names and their terminology were purposefully descriptive to ensure clarity during analysis through a transportation systems planning and engineering lens. Therefore, in some cases, these options are not identical to future option references and the more general terminology that was used for public-facing materials in future engagement. The ID numbering listed in the table below is an internal reference to help in the recording and tracking of options through their generation and evolution.

Table 2.2: Core Options & Associated Option Family

ID	Option	Option Family
22	Bidirectional Car-Free Park Drive + Transit + Active	Car-Free Park Drive
9	Shuttle Service/Transit with Car-Free Park Drive	
10	Shuttle Service/Transit and Dedicated Bike Lane	
21	Bidirectional Car-Free Park Drive + Active Mode Priority	
62	Unidirectional Car-Free Park Drive + Active Mode Priority	
38	Park Drive with Dedicated Bus Lane	Reallocate One Lane of Park Drive
39	Park Drive with Shared Transit Lane & Bike Lane	
23	Bidirectional Bike Lane	
2	Park Drive with Dedicated Bike Lane	
40	Park Drive with HOV Lane	
18	Bidirectional Park Drive for All Vehicles	Two-Way Park Drive for Vehicles
4	Loop Break	Road Network Change
20	Bidirectional Park Drive from Beach Ave to Third Beach	
42	Bidirectional Beach Ave to Second Beach	
28	Vehicle Time Slot Booking	Vehicle Demand Management
24	Vehicle Access Fee	
26	Time-Based Network Restrictions	Temporary Network Change
5	Car-Free Days	
11	Shuttle Service/Transit and Two Vehicle Lanes	Transit Service Change
61	Existing Park Drive with New Parallel Bike Lane	Existing Vehicle Travel Condition
63	Existing Condition Baseline	

2.4 Complementary Options

After the creation, filtering, and consolidation of ideas, the resulting set of complementary options emerged and is listed in **Table 2.3** below. These complementary options would later undergo a qualitative analysis, which is outlined further in **Section 3**.

Simultaneous to this process of distilling options down to a list of 21 core options and 26 complementary options, an evaluation framework was developed that would serve as the tool to measure and rank these new shortlists of options. The development of the evaluation framework is explained in **Section 3**.

Table 2.3: Complementary Options for Consideration

ID	Complementary Option Name
14	Personal Microtransit
16	Disability Placard Vehicle Access
6	Increasing Cycling Infrastructure
31	Enhance Access and Connectivity of Internal Trails
13	Ferry Service
25	Fee for Through Traffic
32	Causeway Bus Stops
36	Dynamic Parking Pricing
41	Intercept Parking Lots
44	Flexible Lanes for Special Events
7	Parking Pricing Adjustments
33	Additional Mobility Device Rentals within the Park
46	Seawall Widening (Cantilever Seawall)
3	Causeway Access Closures
8	Parking Reduction
29	Remove Animal-Powered Transportation
30	Two-Way Seawall for Cycling
37	Hop-on/Hop-off Shuttle Service for Employees and Visitors
43	Time-Differentiated Lane Allocation (Managed Lanes)
48	Trams/Shuttles with Cargo Space
51	Bump-Out Plazas on Seawall
56	Increase Emergency Vehicle Access Points
58	Convert Southbound Causeway Entrance to Exit
35	Tour Bus Licensing
47	Slower Speed Bike Lane
52	Relocate Horse & Carriage onto Seawall

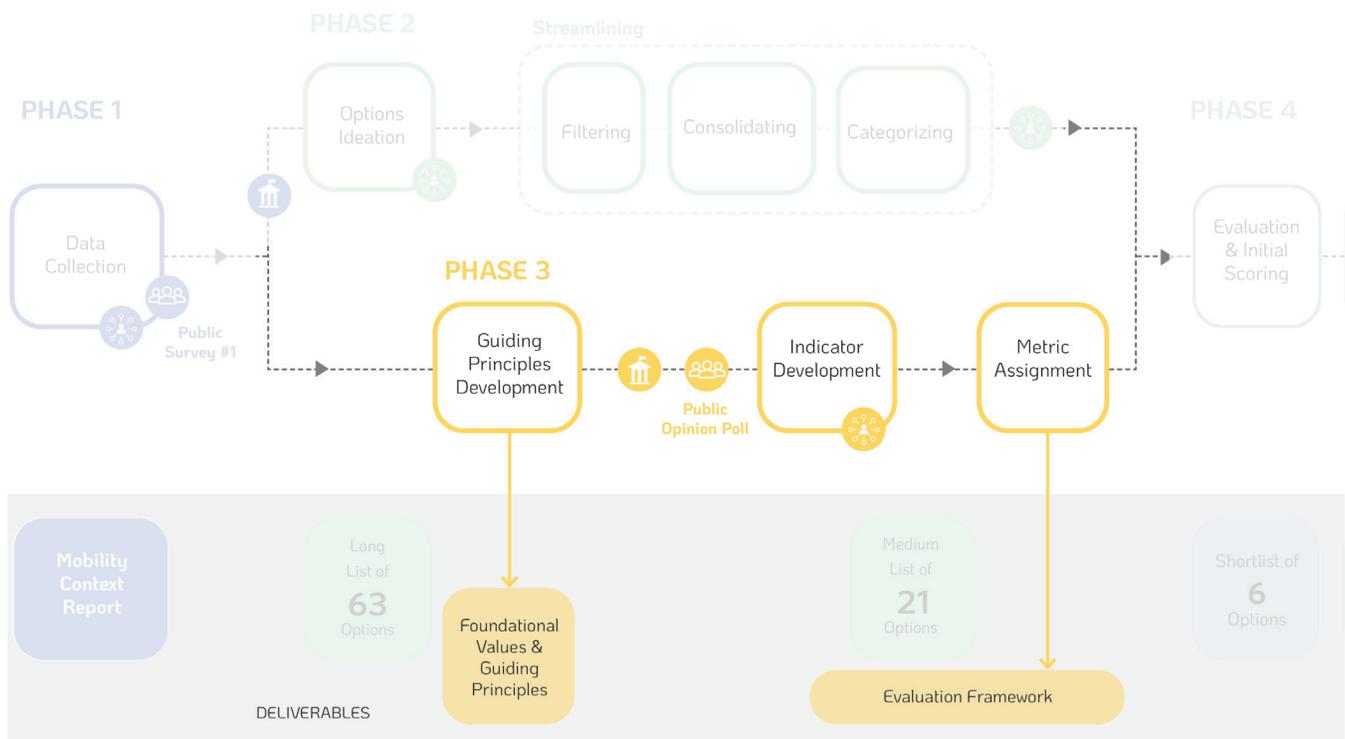
3

Developing an Evaluation Framework

The seven **Guiding Principles** as outlined in **Section 1.7** of this report were used to determine which future mobility options were likely to be most effective, and to develop a multi-criteria evaluation framework before options were finalized to ensure evaluations were done objectively. This section expands upon the process of objectively comparing options. It details the process used to develop the evaluation

framework, the indicators used for evaluation, how indicators were scored using metrics, and how scores were then aggregated so that options could be practically and logically compared and ranked in order of performance. The **Core Options** were evaluated through a technical analysis, appraising both quantitative and qualitative indicators of each option's performance against the study's **Guiding Principles**.

Figure 3.1: Developing an Evaluation Framework Process



Public Engagement



Interest Holder Workshops



Board Engagement

3.1 Evaluation Framework Objectives

There were three overall objectives in the development of the evaluation framework and the subsequent analysis of the mobility options. These objectives are listed below:

3.1.1 Structured Decision-Making

The evaluation process adopted in this study aligns with common principles and an established practice of structured decision-making, where interest holder and public engagement were undertaken both logically and transparently. The framework recognizes that the Mobility Study process and outcomes are inherently values-based, as no single technical measure can provide the “right” solution. By acknowledging this, the process incorporated collaborative input from the Nations, interest holders, and the public—who are the ultimate park users. Their valuation of performance indicators was essential to the structured evaluation process, which included weighting metrics and ensuring their input meaningfully influenced the process early on. This approach allowed the development of guiding principles in collaboration with a broad range of groups, contrasting with typical planning processes that commonly rely on reactive feedback after options are already developed.

This framework provided a valid and justifiable way to aggregate technical analysis into a singular score, reflecting the values expressed by the public and interest holders. By steering the assessment in this manner, the process avoided the pitfalls of reactive input that often disproportionately influences final outcomes, and it provided interest holders with a balanced and equitable evaluation rooted in collaborative decision-making principles.

3.1.2 Upholding the Study Intent

The purpose of the Stanley Park Mobility Study is to understand the potential opportunities and challenges of reducing private vehicle traffic in Stanley Park while exploring ways to improve access and enhance the user experience. Part of this intent was to understand how to handle the increase in visitation in Stanley Park without paving over more green space in the park, and seek to maintain what people value about the park overall in alignment with the guiding principles and associated indicators.

3.1.3 Applying Technical Rigour

The evaluation framework used a total of 27 indicators across the seven guiding principles to express the performance of each of the core options. Each indicator used a different technical metric to measure its outcome. This resulted in a baseline run of the evaluation framework using 546 data points to assess the performance of each option. The technical analysis used quantitative metrics for each indicator where possible, and were calculated using tools such as GIS analysis, access modelling, traffic engineering and transit planning fundamentals, past studies, and academic literature. This included real-world data that was collected in Stanley Park during the different phases before, during, and after the pandemic response, including the temporary bike lane installation.

3.2 Guiding Principles Framework

Adopted by the Park Board in 2022, the seven guiding principles were used as the basis of the evaluation framework. This ensured that each option could be applied a score for how well it achieved each principle.

3.2.1 Indicator Selection

In developing the evaluation framework with interest holders, it was clear that words and phrases such as “safety” and “park experience” can mean different things to different people, can be vague at times, and require definition with the use of indicators. In identifying indicators, four key questions were considered:

1. For each principle, what are the most appropriate indicators that need to be considered?
2. How will indicators be scored?
3. How will scores be aggregated to enable options to be compared accurately?
4. How will the varying priorities of different interest holder groups be accounted for?

Through interest holder workshops and using past public survey data, a set of indicators was developed for each of the seven guiding principles. **Figure 3.2** on the next page depicts the seven guiding principles and the indicators that were selected to define each principle. **Section 3.3** on the following page provides a more detailed description of each indicator and how it was used to score each of the 21 core options.

Figure 3.2: Guiding Principles & Indicators for the Stanley Park Mobility Study

Guiding Principles	Indicators/Metrics
 <p>Safety</p>	<p>How each principle is measured, using data and technical analysis</p> <ul style="list-style-type: none"> 1.1 Controlled Road Speeds 1.2 Emergency Response Times 1.3 Safe & Secure from Crime 1.4 User Conflicts
 <p>Accessibility</p>	<ul style="list-style-type: none"> 2.1 Access for people with mobility-related disabilities 2.2 Access for equity-denied seniors and youth 2.3 Access for people with other disabilities 2.4 Affordable Travel
 <p>Economic Vitality</p>	<ul style="list-style-type: none"> 3.1 Staff Access to Businesses 3.2 Number of Potential Visitors 3.3 Park Revenue 3.4 Low Capital & Operating Cost
 <p>Climate Action & Environmental Protection</p>	<ul style="list-style-type: none"> 4.1 Reduces Transportation Emissions 4.2 Reduces Pavement 4.3 Reduces Impacts on the Environment
 <p>A Flexible & Resilient System</p>	<ul style="list-style-type: none"> 5.1 Movement of Crowds 5.2 Travel Route Options 5.3 Adaptable Infrastructure 5.4 Unobstructed Roads & Paths
 <p>A Connected Transportation Network</p>	<ul style="list-style-type: none"> 6.1 Multi-Modal Connections 6.2 Public Transit Opportunities 6.3 Vehicle Access to Destinations 6.4 More transportation mode options*
 <p>An Enhanced Park Experience</p>	<ul style="list-style-type: none"> 7.1 Noise Pollution Reduction 7.2 Air Pollution & Idling 7.3 Space Dedicated for Active Travel 7.4 Relaxed Experience

* Indicator 6.4 was not part of the initial set of metrics used to evaluate the full list of potential interventions. It was later introduced during the public engagement phase to help compare the six shortlisted options.

3.3 Performance Indicators & Metrics

Performance indicators are the criteria that are used to define each of the guiding principles, analyze the ability to meet a guiding principle, score each option, and determine which is the best potential outcome. Each guiding principle has between three and four indicators to ensure a good balance and to include the different needs within one guiding principle. For example, the principle of Accessibility requires multiple indicators to further break down what this principle means, as we know that accessibility needs for different people can be very different. This is why there are two indicators related to people with disabilities included in the framework: 1) Meet the needs of people with mobility-related disabilities, and 2) Meet the needs of people with non-mobility-related disabilities. Each of these indicators involve different criteria and metrics for

success, which is why they were included in the framework as two separate indicators. There are also related considerations and intersectionality between disabilities, and other ways to have more access to Stanley Park, such as for seniors and youth, as well as accessibility related to affordability.

Each indicator ensures a full spectrum view and definition of each principle to create a balanced framework. Below is a full description of each indicator; some of the indicators in the framework are more straightforward and conventional to interpret. **Appendix B** provides more details for each indicator, including the rationale for including each one, and what they mean for mobility options.

Principle #1 Safety

Creating a safer mobility environment was determined to rely upon the reduction of potential conflicts between diverse users, enhancement of user sense of safety, and maintenance of a network that supports access for an effective emergency response. This guiding principle was assessed through four indicators, as shown below.



Indicator 1.1 – Controlled Road Speeds

How will options reduce speeds of all road users on Park Drive?



Indicator 1.2 – Emergency Response Times

How fast can emergency vehicles get from the boundary to key destinations throughout the park?



Indicator 1.3 – Safe & Secure from Crime

How will options help limit the number of crime occurrences in the park?



Indicator 1.4 – User Conflicts

How will options reduce conflicts between different modes?

 **Principle #2**
Accessibility

This principle communicates the prioritization of the needs of users who face increased barriers accessing locations in the park and increases universal accessibility by design. This principle recognizes the diverse accessibility needs for persons with disabilities, with an awareness that multiple approaches will be required/need to be considered. This guiding principle was assessed through the four indicators listed below.



Indicator 2.1 – Access for People with Mobility-Related Disabilities

How will options support motorized access for people with disabilities?



Indicator 2.2 – Access for Equity-Denied Seniors and Youth

How will options increase access to the park for equity-denied older and younger residents?



Indicator 2.3 – Access for People with other Disabilities

How will options support accessibility for people with disabilities that are non-mobility-related (e.g., visual, hearing, or cognitive disabilities)?



Indicator 2.4 – Affordable Travel

How will options improve affordability of visiting the park, particularly for those with limited means?

 **Principle #3**
Economic Vitality

This principle intends to recognize the contributions of existing and future opportunities enabled by Stanley Park. This principle also centres the natural value of Stanley Park as a key contributor to the regional economy and explicitly considers the financial implications of proposed options on Park Board budgets and services. This guiding principle was assessed through four indicators, as listed below.



Indicator 3.1 – Staff Access to Businesses

How will options optimize travel times for staff to access businesses in the park?



Indicator 3.2 – Number of Potential Visitors

How will options provide efficient ways to accommodate an increase in park visitation?



Indicator 3.3 – Park Revenue

How will options support a short-term increase in revenue (through parking and use fees)?



Indicator 3.4 – Low Capital & Operating Cost

How will options provide new services or infrastructure that is not overly expensive?

Principle #4



Climate Action & Environmental Protection

By reducing private vehicle traffic, actions can contribute to bold climate action and decrease carbon emissions, air and noise pollution, and water contamination. Lower demand for paved surface area can unlock potential to increase natural areas, sequester carbon, and safeguard Stanley Park’s core natural value. This guiding principle was assessed through three indicators, as listed below.



Indicator 4.1 – Reduces Transportation Emissions

How will options reduce the amount of carbon emissions from transportation?



Indicator 4.2 – Reduces Pavement

How will options reduce pavement and maximize the amount of green space in the park?



Indicator 4.3 – Reduces Impacts on the Environment

How will options reduce the impact on the natural areas of the park (water quality, habitat, etc.)?

Principle #5



A Flexible & Resilient System

To accommodate different levels of user activity over the course of a day, a week, a year, and into the future, the transportation network will be planned and designed for different uses, needs, and demands. With increased flexibility, the transportation network can better respond to changes in the park as well as negative impacts such as storm surges and sea level rise into the future. This guiding principle was assessed through the four indicators listed below.



Indicator 5.1 – Movement of Crowds

How will options support the movement of a large volume in a short time frame (i.e., for events)?



Indicator 5.2 – Travel Route Options

How will options provide more travel routes within the park to get to destinations?



Indicator 5.3 – Adaptable Infrastructure

How well can each option’s infrastructure be adapted for different uses/modes at different times?



Indicator 5.4 – Unobstructed Roads & Paths

How will options ensure roads and pathways are open and unobstructed?

Principle #6

A Connected Transportation Network

This principle recognizes that an existing transportation network should evolve into one that provides more direct routes, is more intuitive for users, and enables improved connection to the city's transportation system. This will consider the need to support public transit operations. This future network—one that provides access for all—will require innovative ways to manage access. This guiding principle was assessed through the four indicators below.



Indicator 6.1 – Multi-Modal Connections

How will options provide more opportunities to connect between different modes at hubs and entrances?



Indicator 6.2 – Public Transit Opportunities

How will options improve opportunities to travel into the park by public transit?



Indicator 6.3 – Vehicle Access to Destinations

How well will options provide access to destinations within the park so that people can visit them by car?



Indicator 6.4 – Mode Options*

How does each option support a variety of transportation modes?

* Indicator 6.4 was not part of the initial set of metrics used to evaluate the full list of potential interventions. It was later introduced during the public engagement phase to help compare the six shortlisted options.

Principle #7

An Enhanced Park Experience

The evaluation framework considered what people love and appreciate about Stanley Park, and how to enhance experiences. This guiding principle was assessed through four indicators, as listed below.



Indicator 7.1 – Noise Pollution Reduction

How will options reduce noise pollution and maintain a sense of serenity and peacefulness?



Indicator 7.2 – Air Pollution & Idling

How will options reduce air pollution and idling to improve the health of visitors?



Indicator 7.3 – Space Dedicated for Active Travel

How will options increase the opportunity for recreational travel within the park?



Indicator 7.4 – Relaxed Experience

How will options reduce traffic and congestion in the park?

3.4 Data Aggregation

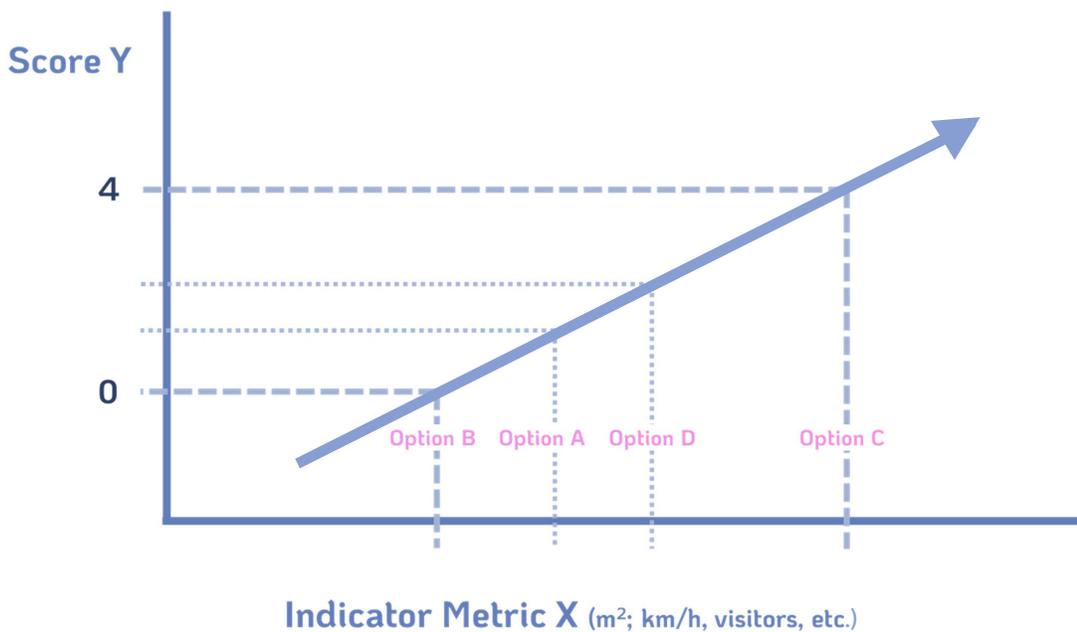
To allow options to be logically compared, scores derived for each indicator were aggregated. Data aggregation is the process where raw data is gathered and expressed in a summary form for statistical analysis. This process involved two components for this evaluation: score normalization and indicator weighting.

3.4.1 Score Normalization

In order to add up all the scores for each indicator and produce an overall score for each guiding principle, individual scores for each indicator must be normalized. Normalized means taking each indicator score and their original numbers, and normalizing them on a scale of zero to four, where zero reflects the score of the lowest-performing option and four reflects the score of the highest-performing option. Every other option that is somewhere between is plotted proportionate to the highest and lowest scoring options.

Figure 3.3 below shows this methodology in graphic form, and how scores undergo this normalization without losing their value and therefore can provide overall scoring of each option against each principle and indicator.

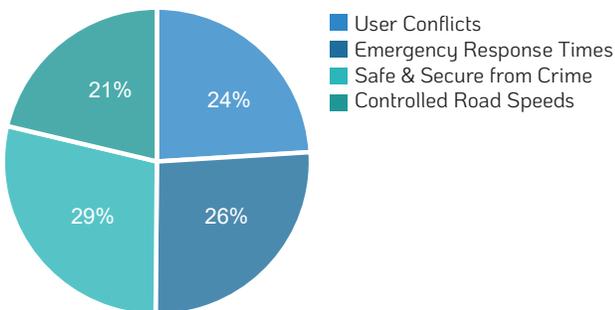
Figure 3.3: Visualization of Normalization Methodology



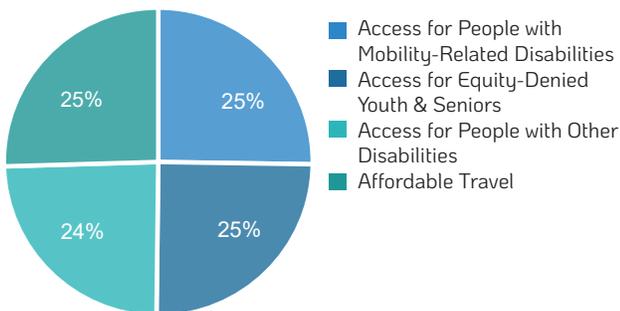
3.4.2 Public Opinion Poll & Indicator Weighting

Based on interest holder feedback, it was determined that not all indicators are equal (for example, many feel that “safe and secure from crime” is more important than “reduces conflicts” as an indicator of safety). To address this in an objective, transparent way, in July of 2023, a statistically representative public opinion poll of 2,000 people in Vancouver and Metro Vancouver was launched, where people were asked to rank different indicators against each other in a series of ranking exercises. The number of people that ranked an indicator higher produced a percentage weighting of the four indicators within each principle, as depicted by the pie charts below. These were used in the base evaluation to recognize that not all indicators are equal in their importance in contributing to a principle.

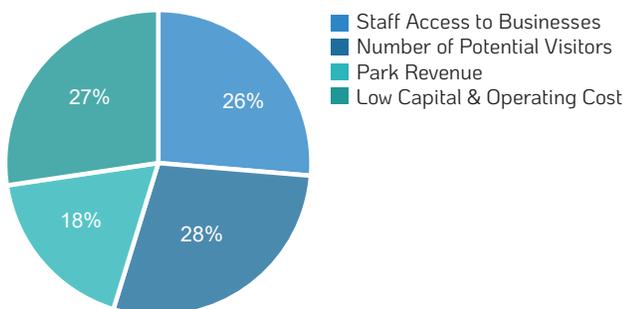
Safety



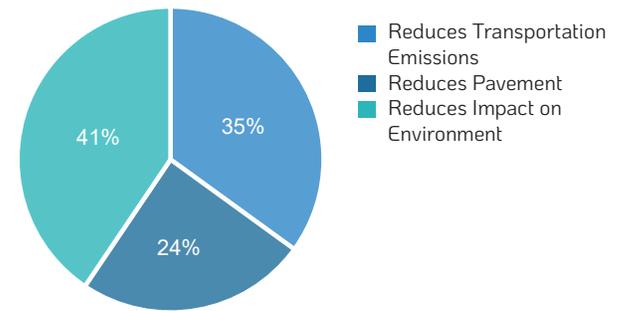
Accessibility



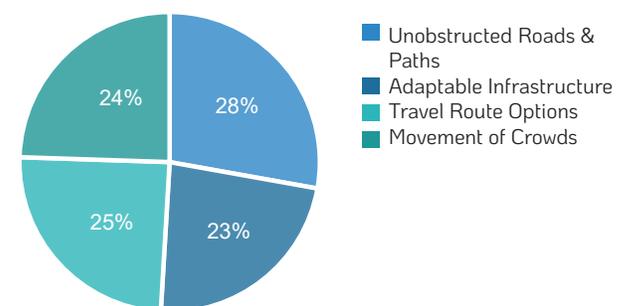
Economic Vitality



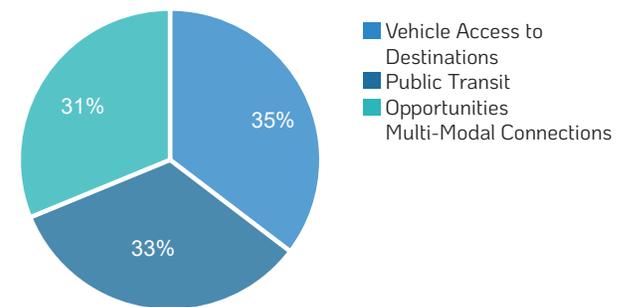
Climate Action & Environmental Protection



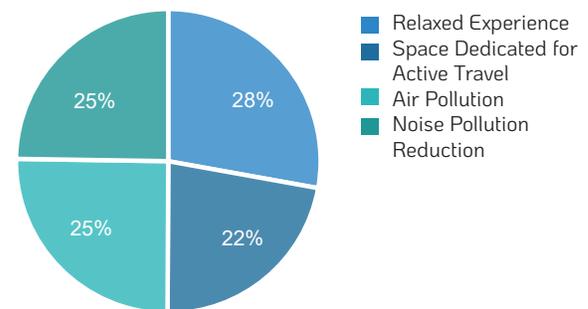
Flexible & Resilient System



Connected Transportation Network



Enhanced Park Experience



Note: Percentages may not total exactly 100% due to rounding.

Figure 3.4 Public Opinion Poll & Indicator Weighting

Lions Gate Bridge (Photo by Emily Holmes)



Indicators Image Credits:

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Indicator 1.2: Photo by Jonnica Hill on Unsplash
Indicator 1.3: Photo by Chase Baker on Unsplash
Indicator 1.4: Photo by Dmitrii Vaccinium on Unsplash
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Indicator 2.2: Photo by Annie Spratt on Unsplash
Indicator 2.3: Photo by Mark Paton on Unsplash
Indicator 2.4: Photo by Asa Rodger on Unsplash
Indicator 3.1: Photo by mk. s on Unsplash, edited by Y. Zhang
Indicator 3.2: Photo by Al Kalash on Unsplash
Indicator 3.3: Photo by Erik Mclean on Unsplash
Indicator 3.4: Photo by piggybank-lq on Unsplash
Indicator 4.1: Photo by Nika Qufarashvili on Unsplash

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Indicator 5.2: Photo by Sebastian Pociecha on Unsplash
Indicator 5.3: Photo by Emily Holmes
Indicator 5.4: Photo by Emily Holmes
Indicator 6.1: Photo by Emily Holmes
Indicator 6.2: Photo by Albert Stoynov on Unsplash
Indicator 6.3: Photo by Emily Holmes
Indicator 6.4: Photo by Anthony Maw on Unsplash
Indicator 7.1: Photo by Joe Darams on Unsplash
Indicator 7.2: Photo by Atoms on Unsplash
Indicator 7.3: Photo by Emily Holmes
Indicator 7.4: Photo by elwis musa tambuwun on Unsplash

4

Options Evaluation

Once an evaluation framework was solidified, options were put through an extensive evaluation process that included an assessment of how successful each option was at meeting the objectives of the guiding principles. This section provides details on the evaluation and refinement process after each option was scored, including an overview of the results.

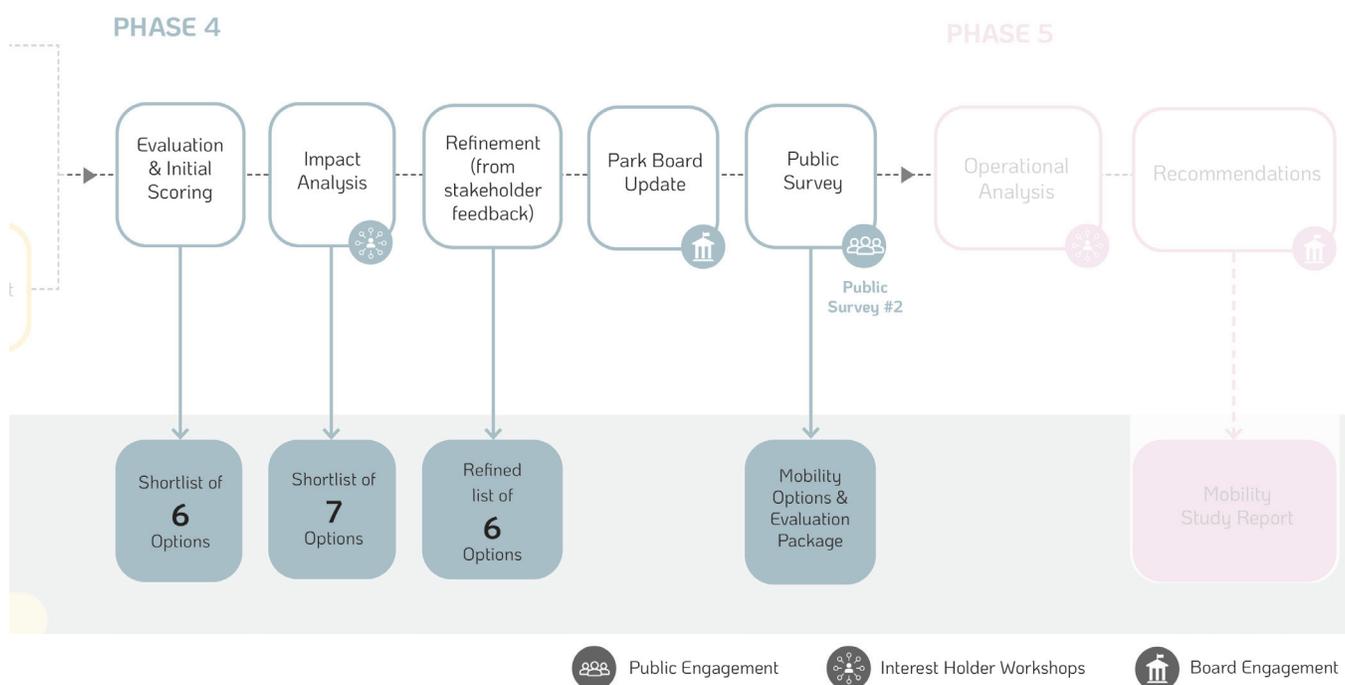
4.1 Evaluation Process Overview

Figure 4.1 provides a visual overview of the option evaluation and refinement process. The first step in this phase involved the evaluation of the 21 core options, using the technical framework summarized in **Section 3**.

The process involved a few key stages:

- The first step in the evaluation process was the initial scoring. This created a list of options ranked in order of how well they “performed” in the evaluation.
- An impact analysis was then completed to determine which options were more robust in meeting various interest holder priorities and would provide the most benefit across a range of related factors.
- The outcome of this evaluation process and impact analysis was a short list of six preliminary options. The intent was to create a simplified list that could be put forward for public feedback; this was eventually assessed further for technical and operational feasibility, described further in **Section 5**.

Figure 4.1: Option Refinement Overview



4.2 Initial Scoring

Using the evaluation framework outlined in **Section 3**, each option was evaluated where each indicator for each option was given a score. These scores were totalled to create an overall score for each option. The list below in **Table 4.1** provides this initial scoring and ranks the list of options in order of highest performing to lowest performing.



E-scooter Riders on the Seawall (Photo by Emily Holmes)

Table 4.1: Preliminary Scoring of Core Options (Guiding Principles Are Weighted Equally)

ID	Option	Score
22	Bidirectional Car-Free Park Drive + Transit + Active	0.792
9	Shuttle Service/Transit with Car-Free Park Drive	0.727
64	Car-Free Park Drive with Separated Transit & Bike Lanes	0.719
10	Shuttle Service/Transit and Dedicated Bike Lane	0.695
21	Bidirectional Car-Free Park Drive + Active Mode Priority	0.673
38	Park Drive with Dedicated Bus Lane	0.610
39	Park Drive with Shared Transit Lane & Bike Lane	0.593
62	Unidirectional Car-Free Park Drive + Active Mode Priority	0.583
2	Park Drive with Dedicated Bike Lane	0.555
23	Bidirectional Bike Lane	0.551
26	Time-Based Network Restrictions	0.532
18	Bidirectional Park Drive for All Vehicles	0.527
28	Vehicle Time Slot Booking	0.515
24	Vehicle Access Fee	0.514
11	Shuttle Service/Transit and Two Vehicle Lanes	0.493
61	Existing Park Drive with New Parallel Bike Lane	0.491
4	Loop Break	0.486
20	Bidirectional Park Drive from Beach Ave to Third Beach	0.475
42	Bidirectional Beach Ave to Second Beach	0.465
40	Park Drive with HOV Lane	0.462
63	Existing Condition Baseline	0.431
5	Car-Free Days	0.411

4.3 Priorities Testing & Impact Analysis

Upon completion of the initial scoring, it was evident that each option has trade-offs, depending upon some key characteristics. No option “has it all” and each option comes with impacts. Trade-offs indicate what some might view as negative consequences to otherwise positive attributes. Below are the key examples of trade-offs, listed by common positive attributes:

- **Options with minimal changes to vehicle travel** – Any option that does not involve changes to vehicle travel tended to score lower on safety, park experience, and climate action and environmental protection, compared to options that reduced vehicle travel. This is because the more vehicle travel experienced in the park, the more that safety, park experience, and climate action and environmental protection are compromised.
- **Options that involve reallocating one lane of Park Drive to a different use** – Any option that requires a separated lane on Park Drive

through some form of physical barrier (such as a vehicle lane + bike lane or a bus lane + bike lane) typically scored lower for the principle of a flexible and resilient system. This is because options that have physical barriers down the middle reduce the level of flexibility and adaptability in different options in the future.

- **Options with low or car-free environments** – Any option that involves reducing vehicle travel significantly, or removing it altogether, scored low on the principles of a connected transportation network and economic vitality. This is because it reduces the number of modes in the park, and because there will be immediate impacts on revenue for the Park Board through the loss of parking revenues (unless revenue is generated in other ways).

In order to determine which options have the most benefit and where the trade-offs are worth considering, testing of the options was done using the priorities of the Nations, interest holders, and other groups. To ensure that no options were being put forward where the trade-offs were too significant, an impact analysis was completed. These two “tests” are described further throughout this section.

Visitors Along the Seawall in Stanley Park (Photo by Emily Holmes)



4.3.1 The Nations, Interest Holder & Public Priorities

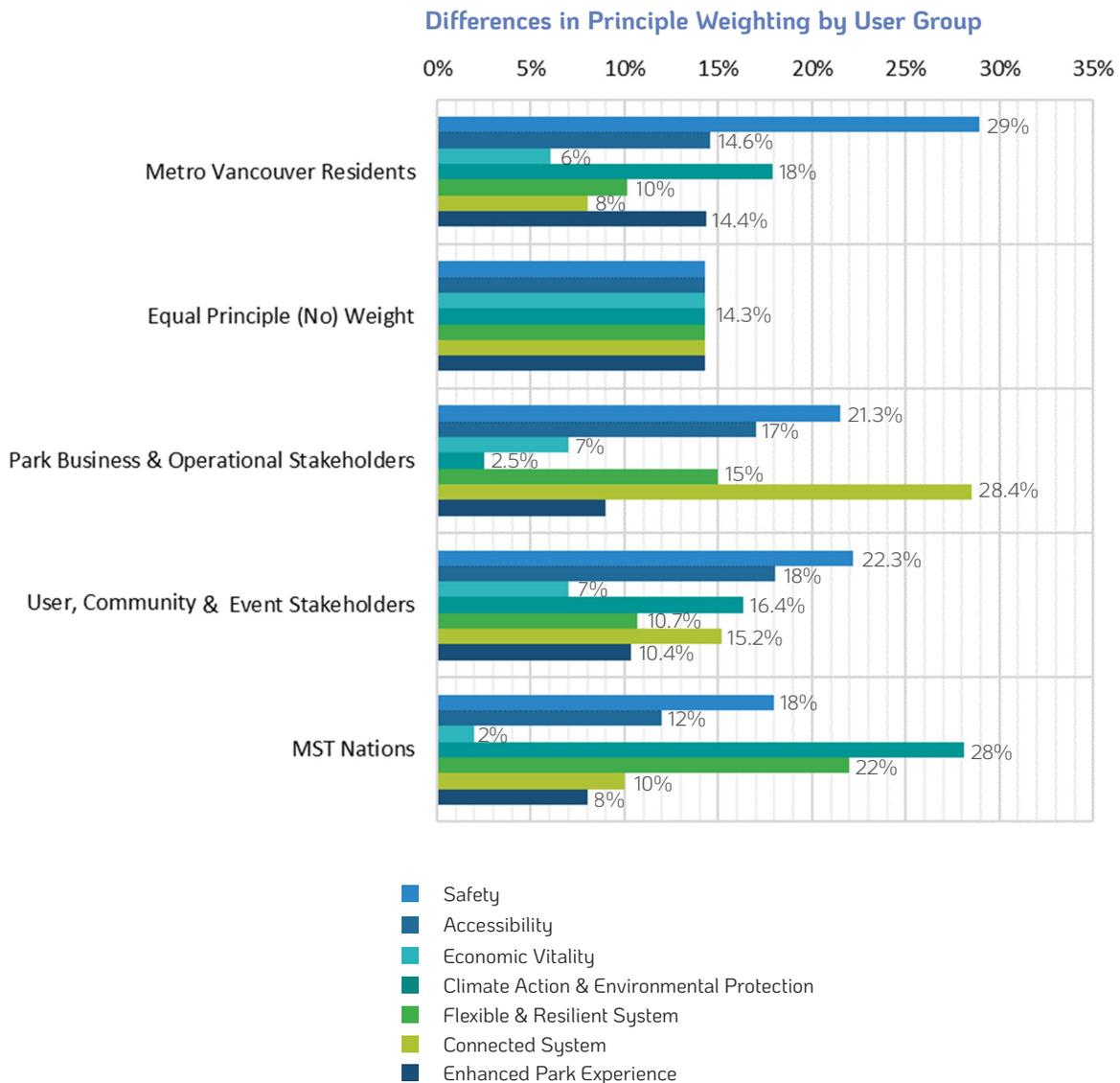
To derive principle weights, engagement sessions were held to identify how different user groups valued each guiding principle relative to one another. These principle weights are shown in **Figure 4.2**.

Some highlighted observations of the differences in priorities for mobility in Stanley Park across user groups include:

- Safety is ranked highly across all user groups, but is prioritized in the resident poll significantly above that of interest holders and Indigenous groups.

- Park business and operation interest holders prioritize connectivity in the mobility system above all other principles and higher than other park user groups.
- Members of the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and səlilwətaʔ (Tseil-Waututh) Nations prioritize climate action and environmental protection above all other principles and significantly higher than other user groups.

Figure 4.2: Visual Representation of Principle Weights, by User Group



Note: Equal Principle (No) Weight
Demonstrative example of equal weights

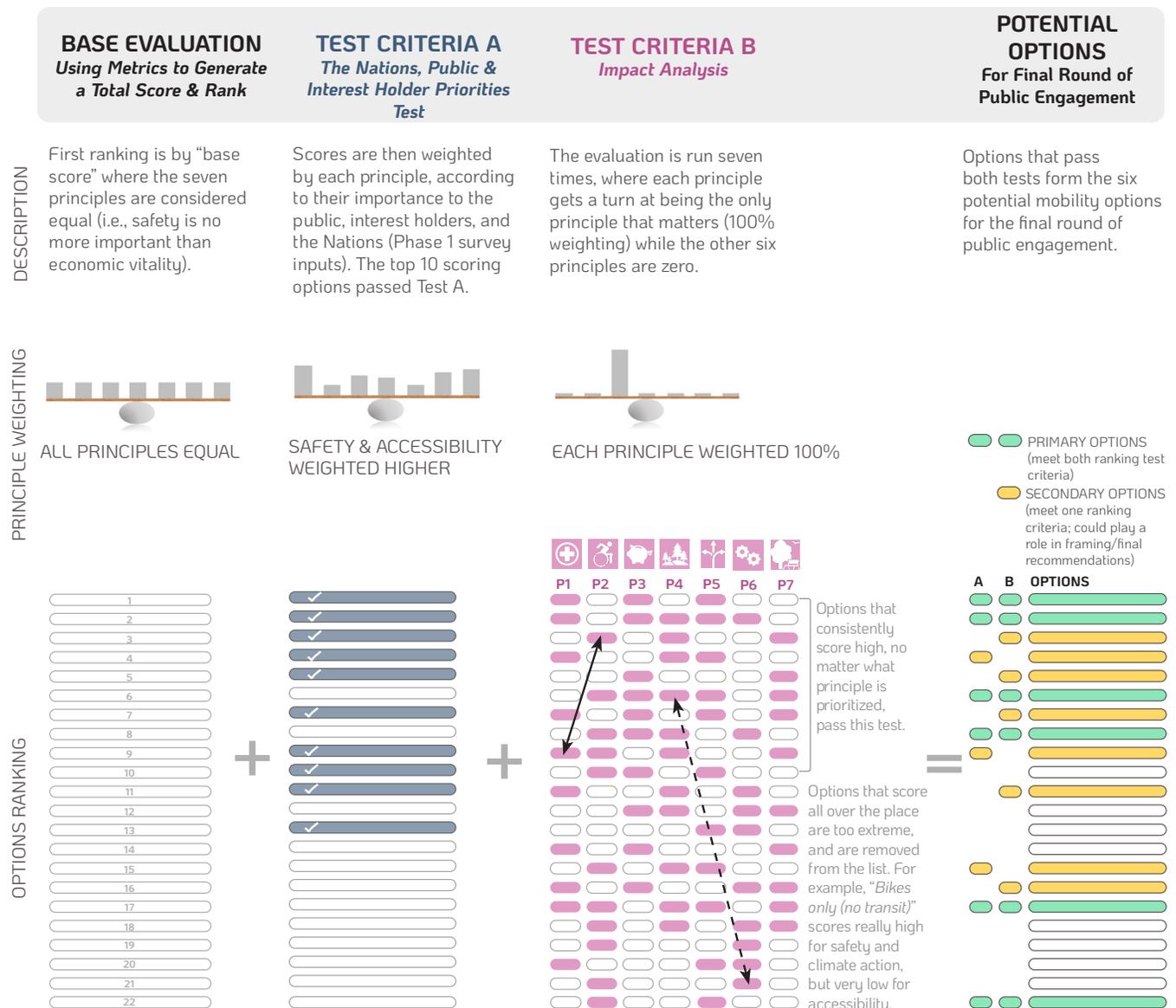
4.3.2 Priorities Testing & Impact Analysis Testing Overview

To more thoroughly analyze the impacts of each option on different groups, two tests were run using the above principle weightings to determine which options were the most robust in providing for the most diverse set of interest holders representing the community. Test A determined whether the options scoring changed depending upon which interest holder/community group was prioritized. Test B looked at which options might work well for some groups, but very poorly for others and eliminated options that were not consistently ranked high.



Welcome Gateway, Stanley Park (Photo by Emily Holmes)

Figure 4.3: Evaluation Process



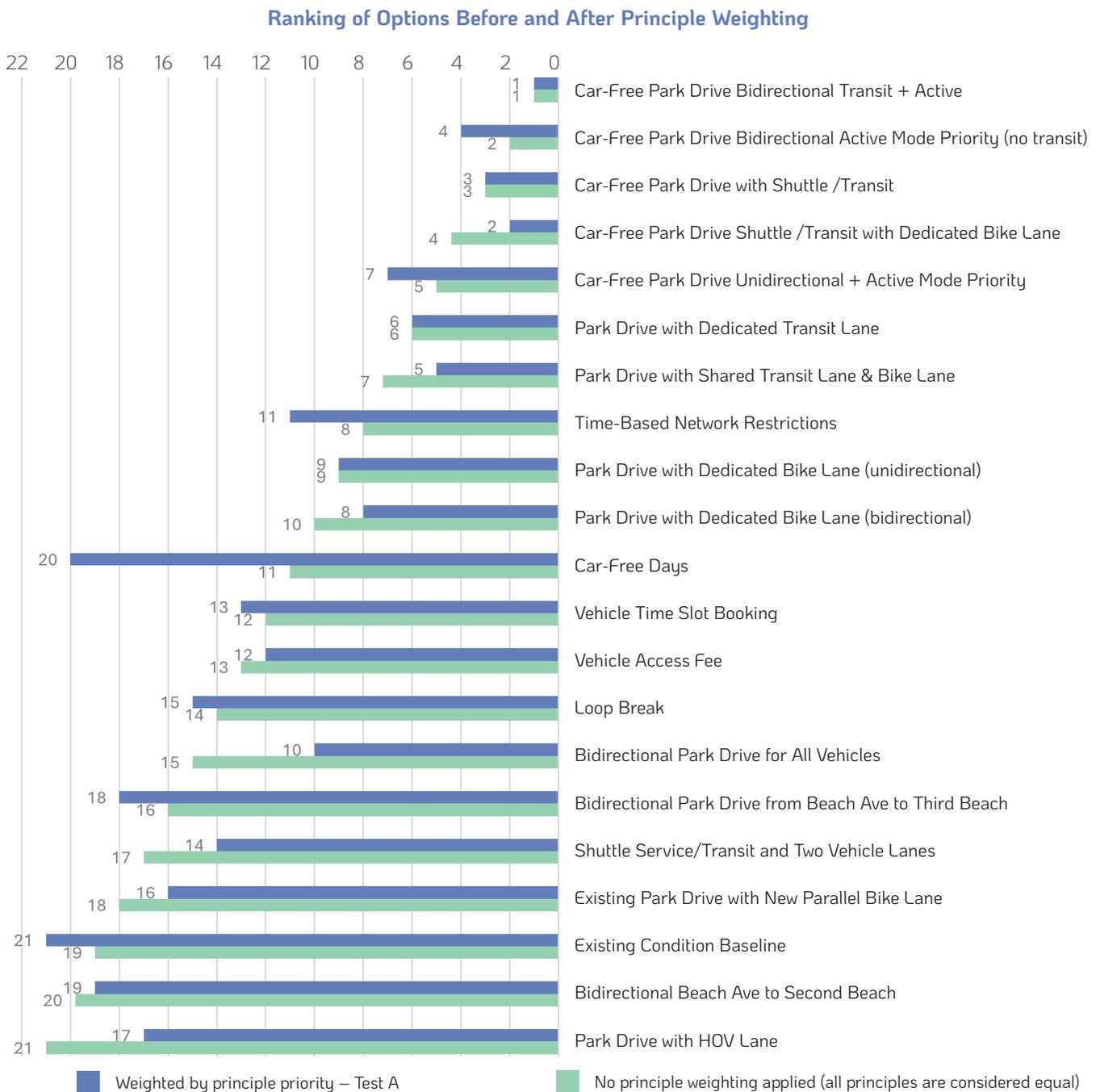
4.3.3 Test A: Interest Holder Priorities Testing

The intent of Test A was to identify options that addressed the priorities of various user groups. Variations in how different user groups prioritized each guiding principle were identified and quantified. Options were evaluated using each of the principle weightings for interest holders, the public, and the Nations, as documented in **Section 4.3.1**. For example, safety was weighted the highest across all interest holders, so the average weight for safety was higher than any other principle. This likely made any options that score high for safety score higher. The goal was

to ensure that top-ranking options reflected the strong priorities of all interest holders.

The resulting scoring and ranking of options is shown in **Figure 4.4** below. As is evident in the figure, many of the same options in the top 10 list before the principle weighting was applied are similar to those in the top 10 list after principle weighting was applied. This suggests that the top options are strong enough to be considered as the best options, even with this additional weighting based on public and interest holder feedback.

Figure 4.4: Priority Weighting Scoring Results (Test A)

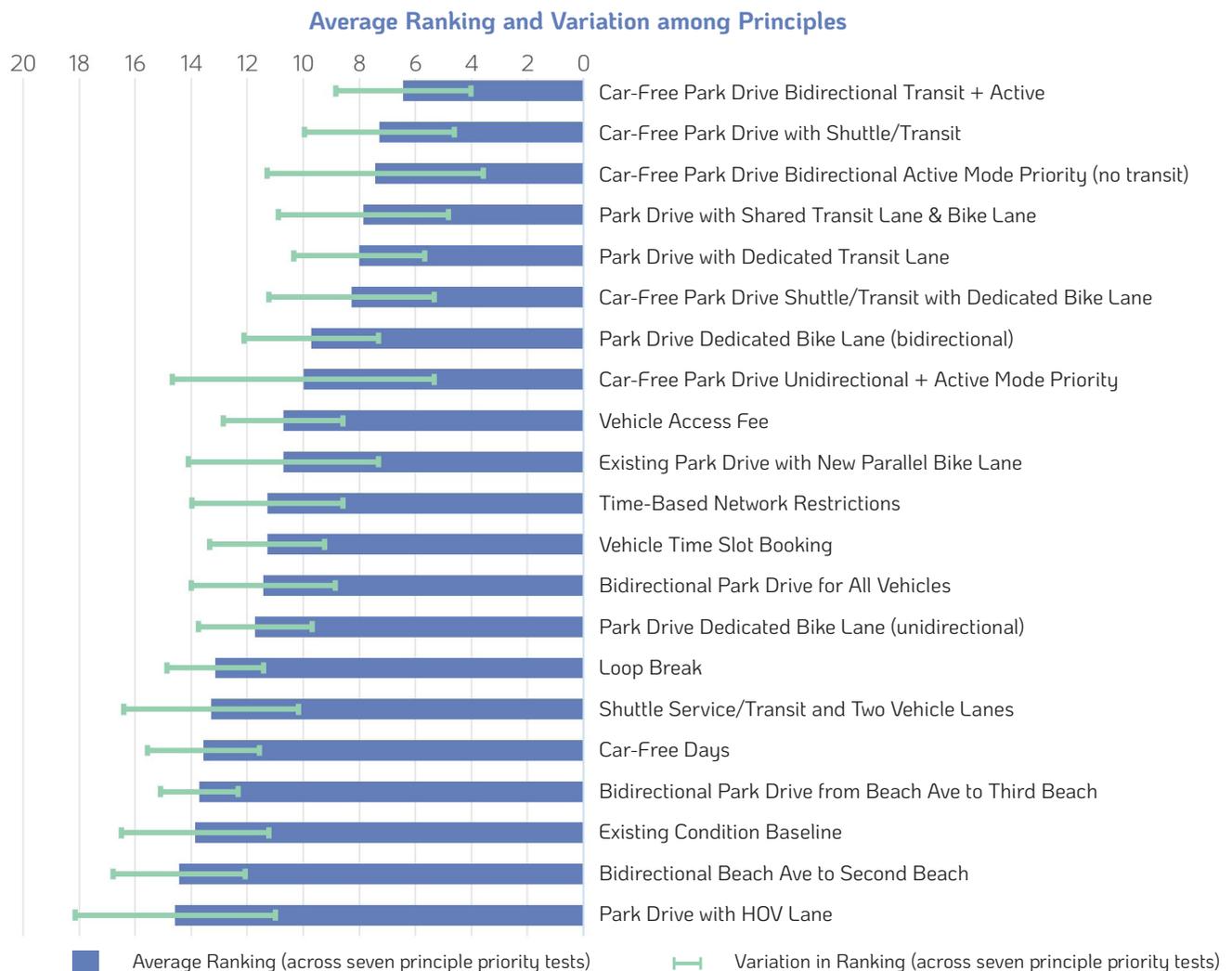


4.3.4 Test B: Impact Analysis

Even after Test A, an option might still score higher overall because it scores very well for one community group (through the principles they value), but it might perform very poorly for another community group (through the principles they value). To avoid options that scored very poorly in any one guiding principle or another, an extreme weighting test was performed. In each of these tests, one guiding principle was assigned 100% weighting, while all six of the other guiding principles were assigned a 0% weighting. The test (Test B) was run seven times for all seven guiding principles, with each principle taking a turn at being assigned a 100% importance weighting. Those options that consistently scored in the top half mean that these options and their high scores are fairly consistent, no matter what principle you are prioritizing completely, as reflected by the average ranking in the blue bars in the graph below.

However, options that had inconsistent results (as indicated by wide green bars in the graph below), reflect too much variability in their scoring. While these options might meet some principles exceedingly well, they score a little too low for other principles, creating undesirable conditions for specific community groups. An example is “Car-Free Park Drive – Unidirectional + Active Mode Priority”. This is an option from the car-free family of options; it does not include a transit service. This scored very high when prioritizing climate action and environmental protection as well as safety, as the lack of large vehicles in the park provides less impact on the environment and is safer for users. However, it scored very low for accessibility and a connected transportation network, due to the lack of transit. Therefore, while it might be an option that works exceedingly well for some people who prioritize the environment, it works poorly for those who prioritize accessibility. Therefore, these options are too volatile, and impacts on specific community groups are too significant to consider as a viable option, and were filtered out.

Figure 4.5: Impact Analysis Results (Test B)



4.3.5 Shortlist of Six Preliminary Options

Informed by the process described above, six preliminary options were shortlisted. These six options are listed in **Table 4.2** and further described in **Section 4.4** below.

Table 4.2: Shortlist of Six Preliminary Options

Option	
	A Time-Based Vehicle Access Restrictions
	B Vehicle Time Slot Booking
	C Park Drive with Dedicated Bus Lane
	D Park Drive with Dedicated Bike Lane
	E Car-Free Park Drive with Dedicated Bike Lane & Dedicated Bus Lane
	F Car-Free Park Drive with Active Transportation & Transit/Shuttle Only

4.3.6 Interest Holder Engagement on Mobility Options

Once the evaluation and the Priorities Test (Test A) and Impact Analysis (Test B) were complete, the resulting draft six mobility options were brought to a combined interest holder workshop of over 40 participants, comprising both park interest holders and community interest holders. A “World Café” style of discussion was organized, where a series of six stations were set up—one for each draft mobility option, with details on the option, seating and tables, supplies, and a facilitator to take notes. Participants were assigned stations in random order to ensure each station had

a mix of interest holders to help understand each other’s differing perspectives. Participants were asked to identify what they liked and didn’t like about each option.

Feedback on the six options is summarized in the Phases 3 & 4 Engagement Summary, but the top feedback staff heard was ensuring that options that had cycling intermingling with buses had to be separated with a physical barrier. Staff also heard that two-way cycling would not be possible with two-way bus travel, due to the safety issues of buses passing cyclists. Other feedback considered impacts on tourism, ensuring that vehicle restrictions do not limit potential visitation. The needs of park business staff and facilities were also highlighted, as they require access into and out of the park throughout the day and into the evening. Finally, feedback also highlighted significant concerns about accessibility and equity in relation to park access. While some supported reducing vehicle access for environmental and safety reasons, they emphasized the need for exceptions or alternative solutions for seniors, people with disabilities, and families with young children, who all rely on cars to navigate the park. This feedback was incorporated after the workshop, resulting in the addition of new options being developed for a refined list of seven options that were being considered (as reflected in the Board Update on Monday April 22, 2024 entitled “*Stanley Park Mobility Study - Update*”).

Following the Board update, further technical work was completed to enable the consolidation of seven options back down to six options. This was ideal, given the next stage of public engagement through a public survey, as more than six options could be burdensome for survey respondents and difficult to gather feedback on.

Figure 4.6: Combined Interest Holder Workshop



4.4 Six Mobility Options

A refined set of six mobility options based on interest holder feedback and technical work was developed, along with graphics to help communicate the intent of each option to the public. This section provides this overview of each option, their benefits, and challenges, and how well they scored in the evaluation. These options were used for the final phase of engagement on the project to understand general level of support. While each option is unique, there are some common characteristics, which are listed first below.

4.4.1 Characteristics of All Options

All options share six significant common characteristics:

- 1. Long-term outlooks with short-term actions** – While options might take time to implement, the final Mobility Study will propose interim and complementary actions that can be implemented in the short term.



- 2. Transit or shuttle service** – All options include the recommendation to provide a transit or shuttle service on Stanley Park Drive that is fully accessible and efficient, and that travels around the entire park.



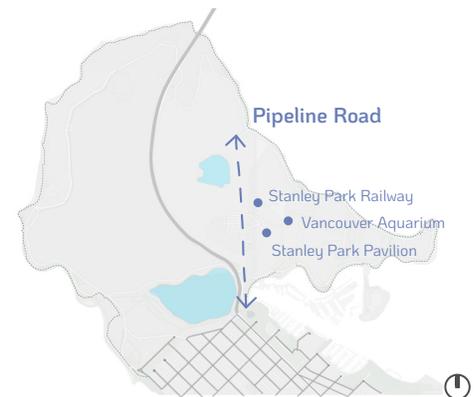
- 3. Emergency & operational access** – All options provide full access for operations and emergency vehicles in, through, and out of the park.



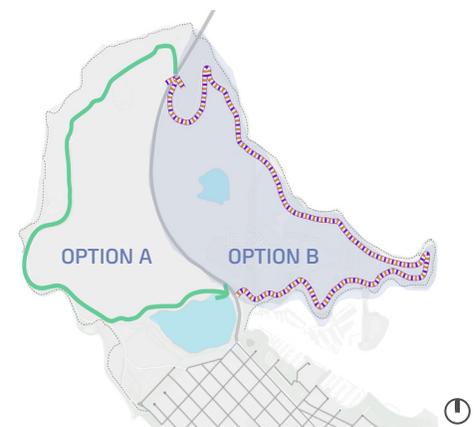
- 4. A focus on Stanley Park Drive** – Although there are other roadways and trails within the park, the main focus of the study is for Stanley Park Drive as the main artery for travelling around the park. Ceperley Meadow and access to and from the West End will be determined with option refinement after public engagement.



- 5. Potential for vehicle access up Pipeline Road** – All options have the potential to include a ‘central spine’ of private vehicle access up Pipeline Road to provide service to the Aquarium, Stanley Park Pavilion, Railway, etc.



- 6. Ability to mix & match options** – Any mobility option could be selected for certain sections, or for only the east or west side of the park.



Option A: Time-Based Vehicle Access Restrictions

Option A would **close Park Drive to cars at specific times, like mornings, afternoons, or weekends.** Park Drive would still be open to a public transit/shuttle service and cyclists during these times. These restrictions could apply during busy weekends in the spring and summer.

Figure 4.7.1: Option A – Stanley Park Drive towards Lumberman’s Arch – During Restricted Times



Figure 4.7.2: Option A – Stanley Park Drive towards Lumberman’s Arch – Typical



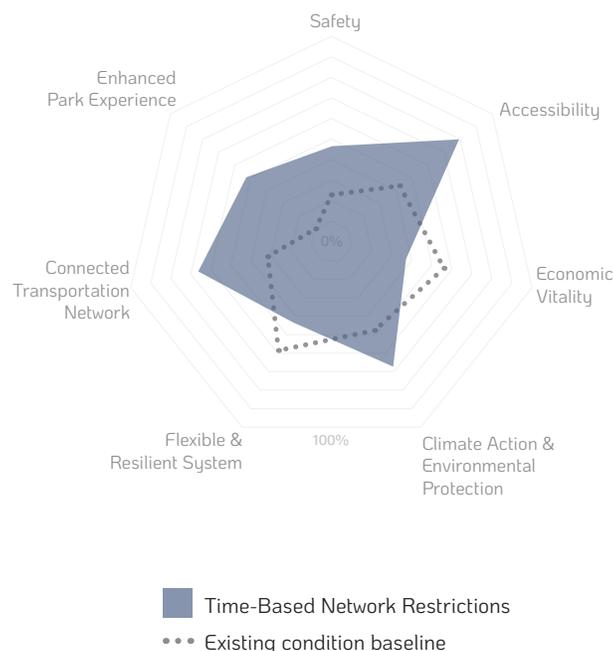
Source: Mott MacDonald, produced using IDEA for Streets software

Considerations

- Supports different modes at different times.
- Requires an entry management system to restrict vehicle access during operational periods.
- All the benefits of car-free, but only during select times.
- During vehicle-restricted periods, only active transportation and a single public transit/shuttle service would be allowed on Stanley Park Drive (with emergency services and operational vehicles only as required).
- During vehicle-restricted periods, it would meet the requirements of AAA facility (in alignment with the City of Vancouver’s *Transportation Design Guidelines: All Ages and Abilities Cycling Routes*).

Evaluation scoring

The graph shows how well this option scored for each guiding principle. The centre of the graph is 0% and the outer ring is 100%.



Option A scores high under the principle **Accessibility**, as it provides a diversity of options, and under the principle **Climate Action & Environmental Protection**, as restricted times would have reduced pollution and environmental impacts.

Option A scores lower under the principle **Economic Vitality**, as during restricted times there would be no revenue from parking, despite this option being relatively low cost to implement.

Option B: Vehicle Time Slot Booking

Option B would mean that **people driving through the park** in their own cars would need to **book a specific time slot ahead of time, free of charge** (similar to Buntzen Lake Park). This would help control how many cars are in the park at one time during the busy season. Booking might be needed all the time or just on weekends in the spring and summer when Stanley Park is busiest.

Figure 4.7.3: Option B – Stanley Park Drive towards Lumberman’s Arch – Typical View



Figure 4.7.4: Option B – Stanley Park Drive towards Ferguson Point – Typical View



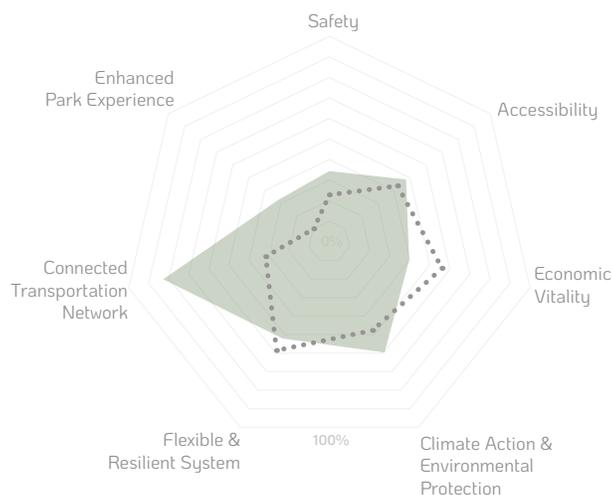
Source: Mott MacDonald, produced using IDEA for Streets software

Considerations

- Supports road cyclists, public shuttle/transit, private tour buses, and limited vehicle access (and improves conditions for horse and carriage tours).
- Requires an entry management, enforcement, and online booking system.
- Staff access and deliveries to businesses could use a separate pass system.
- This option would notably reduce the volume of motorized traffic, though may not be considered an All Ages & Abilities (AAA) 'local street bikeway' (in alignment with the City of Vancouver's *Transportation Design Guidelines*).

Evaluation scoring

The graph shows how well this option scored for each guiding principle. The centre of the graph is 0% and the outer ring is 100%.



Option B scores high under the principle **Connected Transportation Network**, as it provides the most vehicle access to all destinations at all times, as well as transit.

Option B scores low under the principle **Safety**, as road speeds would potentially be higher.

- Vehicle Time Slot Bookings
- Existing condition baseline

Option C: Park Drive with Dedicated Bus Lane

Option C involves using **one lane of Park Drive for cars** and using **one lane for public transit and tour buses**. While the road wouldn't be marked specifically for cycling, it could still be used for this purpose.

Figure 4.7.5: Option C – Stanley Park Drive towards Lumberman's Arch – Typical View



Figure 4.7.6: Option C – Stanley Park Drive towards Ferguson Point – Typical View



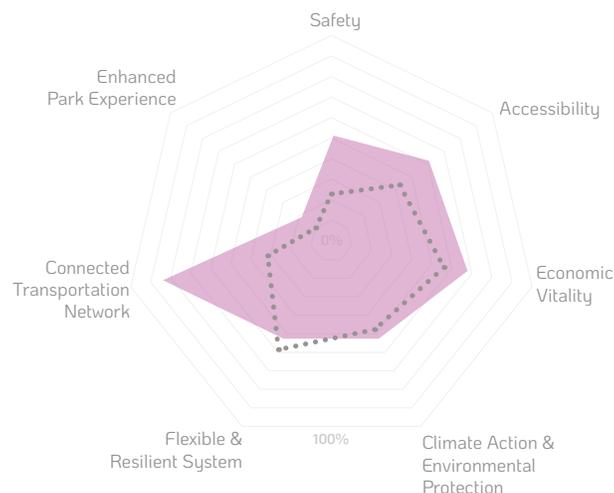
Source: Mott MacDonald, produced using IDEA for Streets software

Considerations

- Supports private tour bus, public shuttle/transit, and private vehicle access.
- Road cyclists could use the bus lane or vehicle lane in accordance with the Motor Vehicle Act, but it would not be a dedicated cycling lane.

Evaluation scoring

The graph shows how well this option scored for each guiding principle. The centre of the graph is 0% and the outer ring is 100%.



Option C scores higher under the guiding principle **Connected Transportation Network**, as it provides the most efficient transit that can easily connect to and support the broader transit system and it provides vehicle access to all destinations at all times, and under **Economic Vitality**, as it maintains parking revenues while enabling a dedicated, unobstructed lane for tour buses.

Option C scores lower under the principle **Enhanced Park Experience**, as there are less opportunities for active recreational travel and minimal reduction in noise pollution.

■ Park Drive with Dedicated Bus Lane
 ●●● Existing condition baseline

Option D: Park Drive with Dedicated Bike Lane

Option D would involve dedicating **one lane of Park Drive for cycling while keeping the other lane for cars**. A protected bike lane would provide physical separation from vehicles and be designed to let emergency and service vehicles get through.

Figure 4.7.7: Option D – Stanley Park Drive towards Lumberman’s Arch – Typical View



Figure 4.7.8: Option D – Stanley Park Drive towards Ferguson Point – Typical View



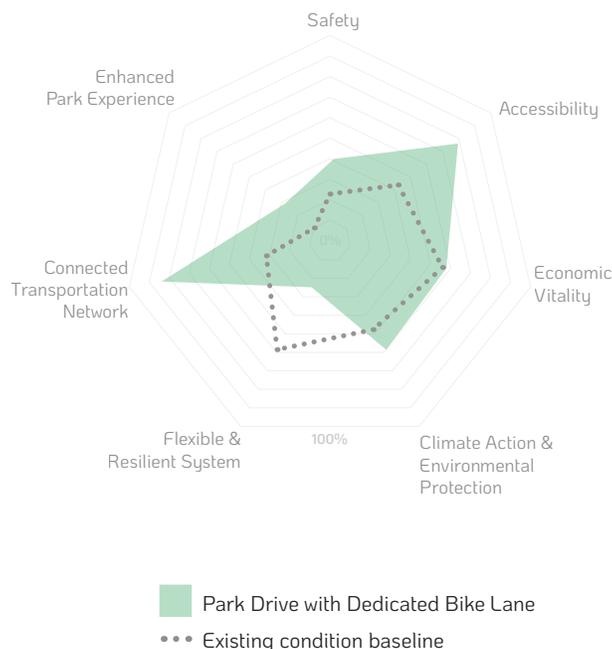
Source: Mott MacDonald, produced using IDEA for Streets software

Considerations

- Mostly supports cyclists of all abilities, private motor vehicle access, and public shuttle/transit service.
- Tour bus access would be permitted, but may need to be limited to select service providers.
- Supports all ages and abilities (AAA) of cyclists (families, beginner riders, and people with disabilities) and meets requirements of AAA facility (in the City of Vancouver’s *Transportation Design Guidelines*).
- More protective separation for cyclists is safer, but more obstructive for operations and emergency access. Requires more systematic approach to operations and emergency access.

Evaluation scoring

The graph shows how well this option scored for each guiding principle. The centre of the graph is 0% and the outer ring is 100%.



Option D scores high for the principle **Accessibility**, as it provides a variety of options for a variety of disabilities and needs, and under **Connected Transportation Network**, as it provides the most variety of transportation modes at all times.

Option D scores lowest for **Flexible & Resilient System**, due to the inflexibility of a permanent separation design for cycling safety, and limited ability to change directions or implement two-way in the future.

Option E: Car-Free Park Drive with Dedicated Bike Lane & Dedicated Bus Lane

Option E would involve **closing Park Drive to cars** and dedicating one lane for **buses only (public transit/shuttle and tour buses)**, and a second protected lane dedicated for **cyclists**.

Figure 4.7.9: Option E – Stanley Park Drive towards Lumberman’s Arch – Typical View



Figure 4.7.10: Option E – Stanley Park Drive towards Ferguson Point – Typical View



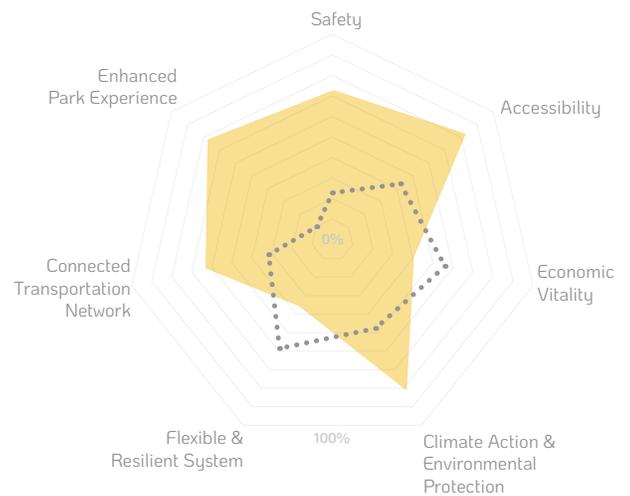
Source: Mott MacDonald, produced using IDEA for Streets software

Considerations

- Supports road cyclists, all ages and abilities of cyclists, public shuttle/transit, and private tour bus use.
- Allows for repurposing of existing parking lots (e.g., additional event or green space).
- Supports all ages and abilities (AAA) of cyclists (families, beginner riders, and people with disabilities) and meets requirements of AAA facility (in the City of Vancouver’s *Transportation Design Guidelines*).
- The rendering in **Figure 4.7.9** and **Figure 4.7.10** shows buses in the right lane and cyclists on left-hand side. This could be switched, with changes to overall direction of travel, or added safety features such as signalized crossings (easier when there are no private vehicles).

Evaluation scoring

The graph shows how well this option scored for each guiding principle. The centre of the graph is 0% and the outer ring is 100%.



Option E scores high for the principle **Accessibility**, as it greatly supports people with disabilities that are not mobility related, and for **Climate Action & Environmental Protection**, as it greatly reduces pollution from cars.

Option E scores lower for the principle **Flexible & Resilient System**, due to the inflexibility of a permanent separation design for cycling safety, and less future ability for two-way travel.

Option F: Car-Free Park Drive with Active Transportation & Shuttle/Transit Only

Option F would involve **closing Park Drive to cars** and dedicating the **full road for cycling in two directions, shared with a one-way shuttle/transit service**. The road would be clearly indicated for cycling use, and the shuttle/transit service would be slow-moving and would run every 15 minutes.

Figure 4.7.11: Option F – Stanley Park Drive towards Lumberman’s Arch – Typical View



Figure 4.7.12: Option F – Stanley Park Drive towards Ferguson Point – Typical View



Source: Mott MacDonald, produced using IDEA for Streets software

Option F scores well under the principles **Safety**, as it limits conflicts and reduces emergency response times, **Enhanced Park Experience**, as it significantly reduces noise and air pollution, **Accessibility**, as it greatly supports people with disabilities that are not mobility related, and **Climate Action & Environmental Protection**, as it significantly reduces exhaust and runoff contamination from cars and tour buses.

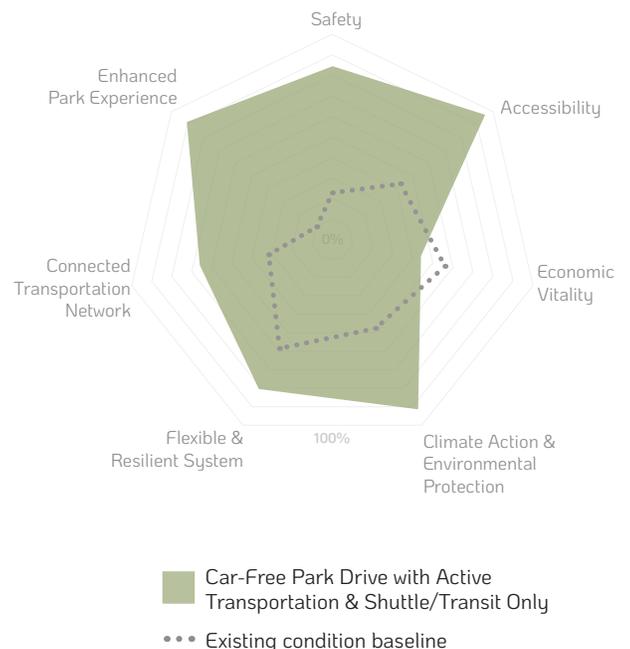
Option F scores poorly under the principle **Connected Transportation Network**, as it does not support private car access to destinations (other than potentially the central area of the park) and under **Economic Vitality**, due to parking revenue loss.

Considerations

- Supports public transit/shuttle service, though private tour buses may not be permitted.
- Best-performing option shortlisted for emergency and operational access, and for horse and carriage tours.
- Supports all ages and abilities (AAA) of cyclists (families, beginner riders, and people with disabilities) and meets requirements of AAA facility (in the City of Vancouver’s *Transportation Design Guidelines*).
- Revenue from vehicle parking would be limited, with the exception of potential parking at entrances.
- Allows for repurposing of existing parking lots (e.g., additional event or green space) and potential for some revenue recovery, offsetting parking loss.

Evaluation scoring

The graph shows how well this option scored for each guiding principle. The centre of the graph is 0% and the outer ring is 100%.

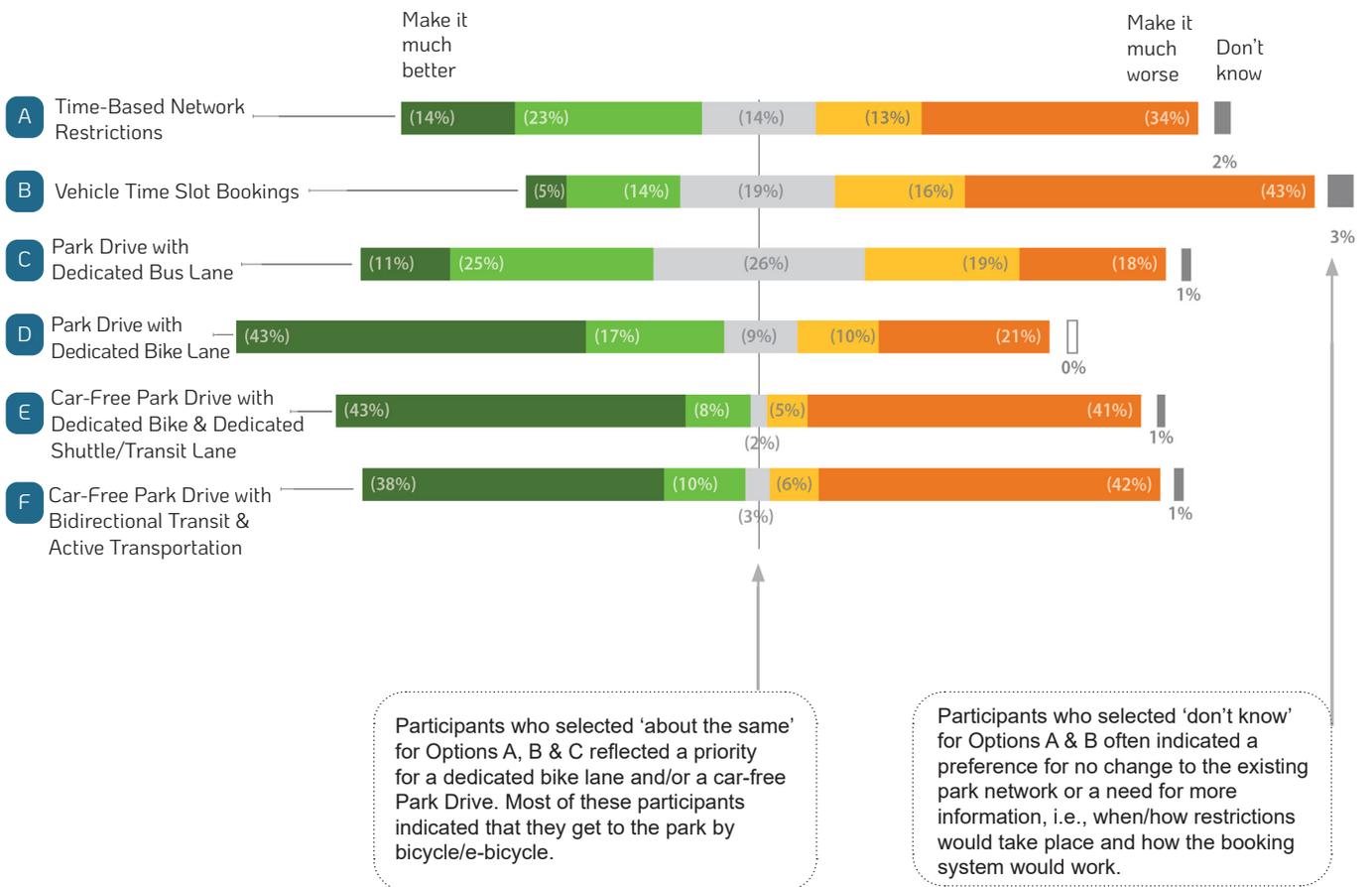


4.5 Public Survey on Mobility Options

To ensure consistent public and interest holder input into the process, a public survey was launched on July 4, 2024 to ask people’s opinions about options and their level of support. Details of the results of this survey can be found in **Appendix M** Phase 3 & 4 Engagement Summary report. However, some highlights are shared in **Figure 4.8** below. Survey respondents were asked if each of the six options

would make their experience much better, somewhat better, neutral, somewhat worse, or much worse (better as indicated by the green bars in the graph below, or worse as indicated by the orange bars). Overall, Option D (Park Drive with Dedicated Bike Lane) was determined to have one of the higher scores for “much better” balanced with a lower score of “much worse”. Option C had the most “neutral” responses, and the car-free options (Options E and F) were the most polarizing.

Figure 4.8: Comparing Public Survey Results by Option



4.5.1 Perspectives of Persons with Disabilities

The needs, experiences, and perspectives of people with disabilities is of critical importance in the Stanley Park Mobility Study. As such, a deeper analysis of the preferences of users with disabilities was completed. Respondents to the survey were asked if they have a disability that either impacted their mobility or did not impact their mobility. The table below reflects the number of respondents who selected each option as part of their list of the top three options they were

asked to choose out of six. This shows that Option E was the most selected option for those with a disability that does not impact their mobility, whereas Option C was the most selected option by those with a disability that impacts their mobility. This demonstrates that the preferences of users with disabilities vary greatly, depending upon the disability of each user. More work is required to analyze the characteristics of the options with respect to accessibility and whether a unified or combined option can become available.

Table 4.3: Option Preference by Ability/Disability

of respondents who chose each option as their “top three”

	Count of OPTION A Preference	Count of OPTION B Preference	Count of OPTION C Preference	Count of OPTION D Preference	Count of OPTION E Preference	Count of OPTION F Preference	TOTAL
Yes, I have a disability(s)/medical condition(s) that does not impact my mobility	46	16	92	132	168	158	351
Yes, I have a disability(s)/medical condition(s) that does impact my mobility	122	44	313	212	111	96	636
No, I do not have a disability/medical condition(s)	455	159	868	1,589	1,403	1,212	3,327

% of respondents who chose each option as their “top three”

	OPTION A Preference	OPTION B Preference	OPTION C Preference	OPTION D Preference	OPTION E Preference	OPTION F Preference
Yes, I have a disability(s)/medical condition(s) that does not impact my mobility	13%	5%	26%	38%	48%	45%
Yes, I have a disability(s)/medical condition(s) that does impact my mobility	16%	7%	49%	33%	17%	15%
No, I do not have a disability/medical condition(s)	14%	5%	26%	48%	42%	36%

4.6 Complementary Option Assessment

Complementary options are options that are not stand-alone, but can be supplemental to the six options presented. These complementary options

were assessed qualitatively, where, for each guiding principle, options were scored with a zero (low), one (medium), or two (high) score, which was then totalled to find an aggregate score. Total scores for each of the complementary option are presented in **Table 4.4** while disaggregated detailed scores are presented in **Appendix D**.

Table 4.4: Outcomes of Complementary Option Assessment

ID	Complementary Option Name	Score
14	Personal Microtransit	9
16	Disability Placard Vehicle Access	9
6	Increasing Cycling Infrastructure	7
31	Enhance Access and Connectivity of Internal Trails	7
13	Ferry Service	6
25	Fee for Through Traffic	6
32	Causeway Bus Stops	6
36	Dynamic Parking Pricing	6
41	Intercept Parking Lots	6
44	Flexible Lanes for Special Events	6
7	Parking Pricing Adjustments	5
33	Additional Mobility Device Rentals within the Park	5
46	Seawall Widening (Cantilever Seawall)	5
3	Causeway Access Closures	4
8	Parking Reduction	4
29	Reconsider Animal-Powered Transportation	4
30	Two-Way Seawall for Cycling	4
37	Hop-on/Hop-off Shuttle Service for Employees and Visitors	4
43	Time-Differentiated Lane Allocation (Managed Lanes)	4
48	Trams/Shuttles with Cargo Space	4
51	Bump-Out Plazas on Seawall	4
56	Increase Emergency Vehicle Access Points	4
58	Convert Southbound Causeway Entrance to Exit	4
35	Tour Bus Licensing	3
47	Slower Speed Bike Lane	3
52	Relocate Horse and Carriage onto Seawall	0

5

Detailed Operational Analysis

As feedback was gathered on the mobility options, further detailed analysis was completed on critical technical and operational considerations. As outlined in previous sections, technical analysis was performed as part of the evaluation process to compare options and identify those that could best achieve project goals. This proved that each of the six options could technically work well. However, more detailed operational considerations were required to gain an understanding of how each of the mobility options could be implemented in practice, to help inform the best overall strategy over time, and to make recommendations for implementation.

The operational considerations can be categorized into two key areas:

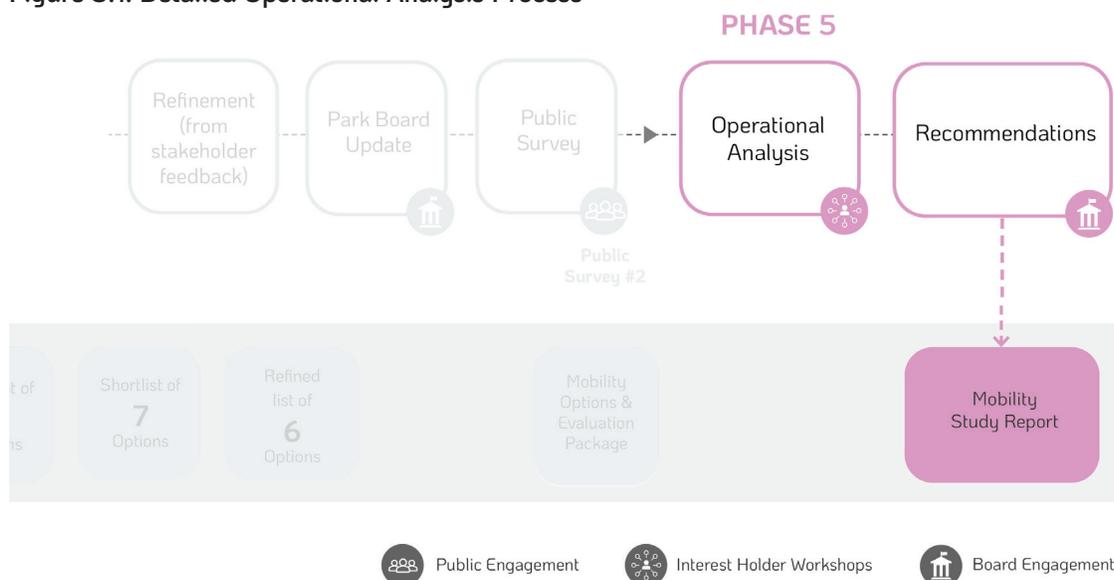
- 1. Mobility Mode-Share Implications** (outlined in **Section 5.2**) – Understanding how each option directly affects each mode and what impacts need to be considered more carefully across the options.

- 2. Implementation Considerations** (outlined in **Section 5.3**) – Determining which components need to be in place before each option can be fully realized.

This section discusses these implications and considerations followed by a detailed analysis required to determine the best options moving forward. In support of these considerations, the following additional detailed analysis was completed:

- One-Lane Capacity Analysis (**Section 5.4**)
- Tour Bus Access Analysis (**Section 5.5**)
- Parking Revenue Impact Analysis (**Section 5.6**)
- Major Destinations Access Analysis (**Section 5.7**)
- Transit Analysis (**Section 5.8**)

Figure 5.1: Detailed Operational Analysis Process



Public Engagement



Interest Holder Workshops



Board Engagement

5.1 Accessibility and Safety Overview

Core requirements such as safety and accessibility are not optional considerations—they are fundamental principles that must be integrated into all future work. As such, these elements were included in the initial evaluation of options to ensure they are embedded in every proposed solution. For accessibility specifically, the technical analysis was further supported by feedback collected during interest holder engagement activities. This input helped validate whether the proposed options effectively address the needs of affected individuals. The feedback has been incorporated throughout the Mobility Study and is reflected across this report. For detailed information on this analysis, refer to **Appendix B**.

For example, **Section 4.5.1** highlights the needs, experiences, and perspectives of people with disabilities, based on survey responses from individuals who identified as having a disability. Additionally, during the operational analysis and recommendation phase, a dedicated engagement session was held with the Persons with Disabilities Advisory Committee (PDAC) to further inform the study. Feedback from the PDAC engagement has been incorporated into **Section 6 – Recommendations**. Before implementation, each option will be planned to ensure it meets the accessibility needs of persons with disabilities.

5.2 Mobility Mode-Share Implications

A key project goal was to determine what could be done to improve access largely within the existing footprint of Stanley Park Drive. With limited and confined road space, it has always been a challenge to accommodate all modes. Each of the six mobility options vary in the level of access they provide. **Table 5.1** below provides a summary of this modal analysis; the most significant implications for travel modes sharing space on Stanley Park Drive are discussed further in this section.

As one of the most flexible options, Option A (Time-Based Vehicle Access Restrictions) provides a good level of support across all modes, since vehicle restrictions provide improved conditions at some times for all modes, and still enable vehicle access. Option A likely has the least amount of infrastructure to implement or manage and is therefore less complex, and quicker to plan and implement.

With Option D, with a dedicated bike lane and continued vehicle access, Stanley Park Drive would be narrowed to one lane, but with measures to provide capacity as appropriate at entry/exit points, where there is significant parking activity, and/or where there are low-speed vehicles sharing the roadway. A **One-Lane Capacity Analysis** was completed to determine overall impacts of this (refer to **Section 5.4**). Option D poses challenges for transit in specific locations such as narrower road areas and at entrances and

Table 5.1: Mobility Mode-Share Implications for the Six Mobility Options

OPTION*	How each option works for....								
	ROAD CYCLISTS	ALL CYCLISTS (Families, beginner riders, and disabilities)	PUBLIC SHUTTLE/ TRANSIT EFFICIENCY	PRIVATE TOUR BUS USE	MOTORIZED ACCESS FOR MOBILITY DISABILITIES	HORSE & CARRIAGE	EASE OF OPERATIONS	EMERGENCY VEHICLES	AVERAGE ALL
A	Very Good	Okay	Okay	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good
B	Okay	Maybe	Okay	Very Good	Very Good	Very Good	Okay	Very Good	Okay
C	Okay	Maybe	Very Good	Very Good	Very Good	Okay	Okay	Okay	Okay
D	Maybe	Very Good	Maybe	Okay	Maybe	Maybe	Maybe	Maybe	Maybe
E	Okay	Very Good	Very Good	Very Good	Okay	Okay	Maybe	Okay	Okay
F	Very Good	Very Good	Okay	Maybe	Okay	Okay	Very Good	Very Good	Okay

*Option A – Time-Based Vehicle Access Restrictions
 Option B – Vehicle Time Slot Booking
 Option C – Park Drive with Dedicated Bus Lane
 Option D – Park Drive with Dedicated Bike Lane

Option E – Car-Free Park Drive with Dedicated Bike Lane & Dedicated Bus Lane
 Option F – Car-Free Park Drive with Active Transportation & Transit/Shuttle Only

exits, and has localized challenges that need to be addressed with respect to park operations, emergency services, and horse and carriage access. This requires further planning, and will likely result in additional design and construction requirements. Additional analysis is required to assess the impact of bike lanes on transit feasibility.

For Option F (Car-Free Park Drive with Active Transportation and Transit/Shuttle Only), tour bus access would be limited, as the park would need to be serviced by a regulated transit or shuttle facility going at slow speeds to be effective and safe when mingling with cyclists. Tour bus access may be possible in select locations like the central area of the park (to access areas like the Aquarium). Other options include controlling the number of tour buses. A Tour Bus Study was completed to determine how many buses are currently using Stanley Park Drive with further exploration of the impacts of reducing tour bus access (refer to **Section 5.5**). Further analysis would be required to assess how tour buses could feasibly be accommodated in Option F.

5.3 Implementation Considerations

Each option also varies in how complex it would be to implement, as shown in **Table 5.2**. This ultimately reflects the complexity involved in implementing the options, and the probable length of time before any of these options could feasibly be in place, due to the time and resources required to implement.

Car-free options (Option E and Option F) would require repurposing of parking lots along Stanley Park Drive, now that vehicles would no longer be using certain parking lots. Since parking revenue represents a notable portion of current revenue generated in Stanley Park, economic studies assessing what can be done to offset the associated loss in parking revenue would be required before implementation. An initial **Parking Revenue Impact Analysis** was completed in **Section 5.6** below to support this. Further consideration should be given to maintaining vehicle access to major destinations in the park; this is explored further in the **Major Destinations Access Analysis** in **Section 5.7**. This includes recognizing notable differences in how locals (from Metro Vancouver) and tourists access the park and the modes they use.

For all options, transit or a shuttle service is required to maintain fully accessible and efficient travel around the park. Accordingly, routing and operational planning, and the design and construction of stop infrastructure are key considerations for all options, and have been explored further in a **Transit Analysis** (found in **Section 5.8**). Options incorporating a dedicated bike lane would require island bus stops to enable the bike lane to remain on the right-hand side in counter-clockwise operation.

Option D and Option E, which both feature a dedicated bike lane, may require some form of linear infrastructure on Stanley Park Drive, necessitating further funding, design development, and consideration of the most appropriate construction methodology.

Table 5.2: Implementation Considerations for the Six Mobility Options

OPTION*	Component Requirements									
	SHUTTLE/ TRANSIT ROUTE PLANNING	BUS STOPS	FLOATING BUS STOPS	ENTRY MANAGE- MENT SYSTEM	DIGITAL CARD ENTRY SYSTEM & PROGRAM	PARKING LOT RE- PURPOSING	“NO PARKING REVENUE” FUNDING PLAN/ STUDY	PARK DRIVE LINEAR INFRA- STRUCTURE	ONLINE SYSTEM	SOLID LANE PAINTING
A	Y	Y		Y	Y					
B	Y	Y		Y					Y	
C	Y	Y								Y
D	Y	Y	Y					Y		Y
E	Y	Y	Y	Y	Y	Y	Y	Y		Y
F	Y	Y		Y	Y	Y	Y			

*Option A – Time-Based Vehicle Access Restrictions
 Option B – Vehicle Time Slot Booking
 Option C – Park Drive with Dedicated Bus Lane
 Option D – Park Drive with Dedicated Bike Lane

Option E – Car-Free Park Drive with Dedicated Bike Lane & Dedicated Bus Lane
 Option F – Car-Free Park Drive with Active Transportation & Transit/Shuttle Only

5.4 One-Lane Capacity Analysis

Options A, C, and D include a reduction in private vehicle capacity on Stanley Park Drive to one lane at some or all times. To explore whether Stanley Park Drive could support this reduction in vehicle capacity, a preliminary **One-Lane Capacity Analysis** was completed. This section provides an overview of the results; details of the analysis can be found in **Appendix I**.

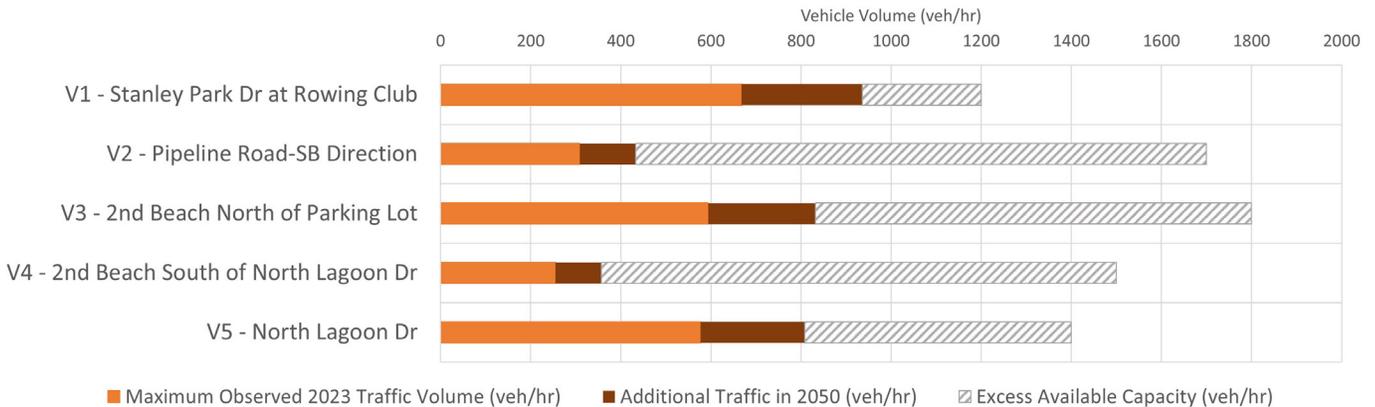
5.4.1 Key Findings

As seen in **Figure 5.2**, results of this preliminary analysis suggest that the capacity of one vehicle lane on Stanley Park drive significantly exceeds demand for all segments of the road during peak hours. It should be noted that the City of Vancouver has policies to reduce motor vehicle trips and prioritize sustainable modes across the municipality. However, even if motor vehicle trips within Stanley Park were to increase at approximately 1.2% per year, as predicted by travel modeling conducted at the regional scale, there would still be sufficient capacity through to 2050⁶. At a high level, these results suggest that that

the reallocation of one lane of Stanley Park drive from private vehicles to other modes is not expected to result in significant additional delays or congestion.

Anecdotal observations of vehicle delays on Stanley Park Drive while the temporary bike lane was in place received public attention during recent discussions of mobility in the park and the reallocation of road space. The analysis documented here shows that any observed delays were likely the results of factors other than the geometry of Stanley Park Drive. This included upstream delays within the downtown Vancouver road network for vehicles exiting the park, which could be addressed through designs near park exits coordinated with the City of Vancouver, particularly if implemented through a long-term phased approach. It should be noted that this analysis does not account for the unique modes that use Stanley Park Drive. Specifically, visitors have previously highlighted challenges when cars share a single lane with horse and carriage tours on the eastern side of the park. Additional work is needed to assess these impacts and to develop designs that would mitigate impacts on emergency and operational vehicle movement associated with options that include lane reallocations or restrictions.

Figure 5.2: Available Road Capacity Versus 2023 & 2050 Traffic Volume



⁶ Greater Vancouver Regional Travel Model from TransLink.

5.5 Tour Bus Analysis

There are also significant differences in demand for vehicle access between locals. Tour buses are currently an important mode of travel for tourists, but only some options will allow continued tour bus access along Stanley Park Drive at the same capacity that exists now.

- Option A would limit tour bus access during designated restricted periods.
- Option B would continue allowing tour bus access.
- Options C and E, which include a dedicated bus lane, perhaps best support tour bus access, since they would share a lane with the fewest modes.
- Option D could permit some tour bus access, but it will require specific design adjustments for parking and stopping areas, and access may need to be restricted to certain providers.
- Option F would not permit tour buses onto Stanley Park Drive, but could be looked at for specific destinations.

To understand the extent to which tour bus businesses might be impacted, an analysis of observed tour bus traffic was conducted. This is discussed in the summary below and in detail in **Appendix G**.

5.5.1 Observed Tour Bus Volumes

This preliminary study observed an average of approximately 8.5 tour vehicles per hour (including buses, vans, and carriages) driving in Stanley Park. Volumes generally peak in the late morning and early afternoon, with 14 and 12 tour vehicles being observed during the hours starting at 10:00 am and 2:00 pm, respectively. By day of week, the highest number of tour vehicles were observed on Fridays. In the eastern portion of the park, tour buses circulated using Stanley Park Drive, as opposed to other roads like Avison Way. Several tour businesses were observed to operate recurrently within Stanley Park within a given day.

5.5.2 Key Findings

Option F is expected to have the most impacts on tour bus operations by essentially eliminating them from Stanley Park Drive. Countermeasures or modifications could be developed to mitigate economic impacts on tour businesses associated with mobility options that restrict tour bus access to Stanley Park Drive. This includes enabling tour bus access to key locations in the park, including major destinations such as the Aquarium. Option A will have occasional impacts on tour buses, in that they would not be allowed when vehicle access is restricted, for the safety of cyclists and micromobility users.

Regardless of the mobility options, the results of the tour bus study confirm the increasing traffic experienced in the park from tour buses, which is not without its challenges. Tour bus operations have impacts on park infrastructure, including traffic, air pollution from exhaust, park washroom cleanliness, and service needs from surges of visitors at park “hot spots”.

As a heavy vehicle class, the weight of tour buses also has an outsized impact on road infrastructure. In a report presented at the Transportation Association of Canada, for example, Applied Research Associates Inc. stated that, for provincial rural roads in Southern Ontario, 68.7% of roadway maintenance costs were attributable to heavy vehicles like trucks—even though trucks only represented 25% of all vehicles using the road. At some point, restrictions may need to be put in place, which would ultimately support the tour bus industry by controlling traffic and ensuring demand for tour bus services.

5.6 Parking Revenue Impact Analysis

One of the most important operational considerations for some mobility options is the impact that they will have on parking availability, with revenue implications. For both Option E and Option F, vehicle restrictions mean that visitors would no longer have access to parking lots along Stanley Park Drive. With car parking revenue accounting for 60% of total annual revenue generated in Stanley Park in 2019 (see Section 6.3.2 in the *Mobility Context Report*), this could have a potentially significant economic impact on the City of Vancouver operating funds. The following section provides a summary of the parking revenue impact analysis, with the full report presented in Appendix E.

5.6.1 Parking Lots on Stanley Park Drive

Most of the parking lots in Stanley Park are only accessible through Stanley Park Drive (refer to Figure 5.3 below). This includes some of the largest or busiest lots in the park, located at the Aquarium, Information Booth, Yacht Club, and Third Beach. A sub-option has been explored for maintaining vehicle access on Pipeline Road, as outlined in **Pipeline Road Access** in Section 6.4.1. In this case, in options that preclude car access to Stanley Park Drive, vehicles would only have access to parking lots situated alongside Pipeline Road, and potentially around Ceperley Meadow, depending on vehicle access considerations at the western park access points.

Figure 5.3: Demand in Existing Parking Lots in Stanley Park



5.6.2 Potential Reduction in Parking Revenue

Two analytical methods were used to provide a preliminary estimate of the potential loss in revenue from the lack of vehicular access to parking lots along Stanley Park Drive. The first method estimates the overall reduction in parking capacity and calculates the associated loss in parking revenue, assuming a direct relationship between capacity and demand. The second method assumes that users of parking lots along Stanley Park Drive would then choose to park at an alternative lot within the park.

In the first case, if only the Train Lot, Service Yard, and Stanley Park Pavilion lots (for a total of 322 parking stalls) would remain accessible when vehicle restrictions are in place along Stanley Park Drive, the number of parking stalls available in the park will be reduced by around 86%. Since parking demand is well-aligned with individual lot capacities, assuming no behavioural changes from visitors, it may be reasonable to conclude that parking revenue will similarly drop by 86%.

On the other hand, if those who previously parked in a lot along Stanley Park Drive choose instead to park in one of the lots along Pipeline Road, 15% of estimated peak parking demand (using 2023 as a baseline) could be accommodated. Assuming a direct relationship between peak parking demand and parking revenue, the analysis suggests a potential 85% reduction in parking revenue.

5.6.3 Key Findings

The two preliminary estimates above suggest that mobility options that restrict private vehicle movement on Stanley Park Drive (Options E and F) could have a notable impact on the revenue generation potential of parking lots within Stanley Park. However, the analysis behind these estimates is limited, as it does not consider potential changes in visitation patterns (e.g., changes in the number of visitors going to the park by car), other parking-related goals that need to be managed like occupancy rates,⁷ and other levers available to the Park Board to manage parking revenue other than demand (e.g., parking pricing).

Before Option E or F may be implemented, further analyses should be performed to more comprehensively assess how parking demand could change if vehicle access is restricted along Stanley Park Drive, its potential impact on parking revenue, and how this potential loss in parking revenue could be offset by business ventures and opportunities. These ideas would need to be further explored through a

future economic/market analysis and suggests that more time is needed to consider the implementation of the car-free options (Options E and F). The above assumptions are made based on calculations of past parking access/use. It is also recommended that versions of these options be piloted in order to further study the exact behaviours of people and how this would impact parking.

5.7 Major Destinations Access Analysis

One of the most significant access-related considerations was the current high level of vehicular access to major destinations in the park, most notably the Aquarium. For all options, many interest holders and members of the public have expressed concerns about how park accessibility, experience, and economics would be impacted if vehicle restrictions were in place—highlighting the importance that certain businesses and user groups have placed on maintaining vehicle access.

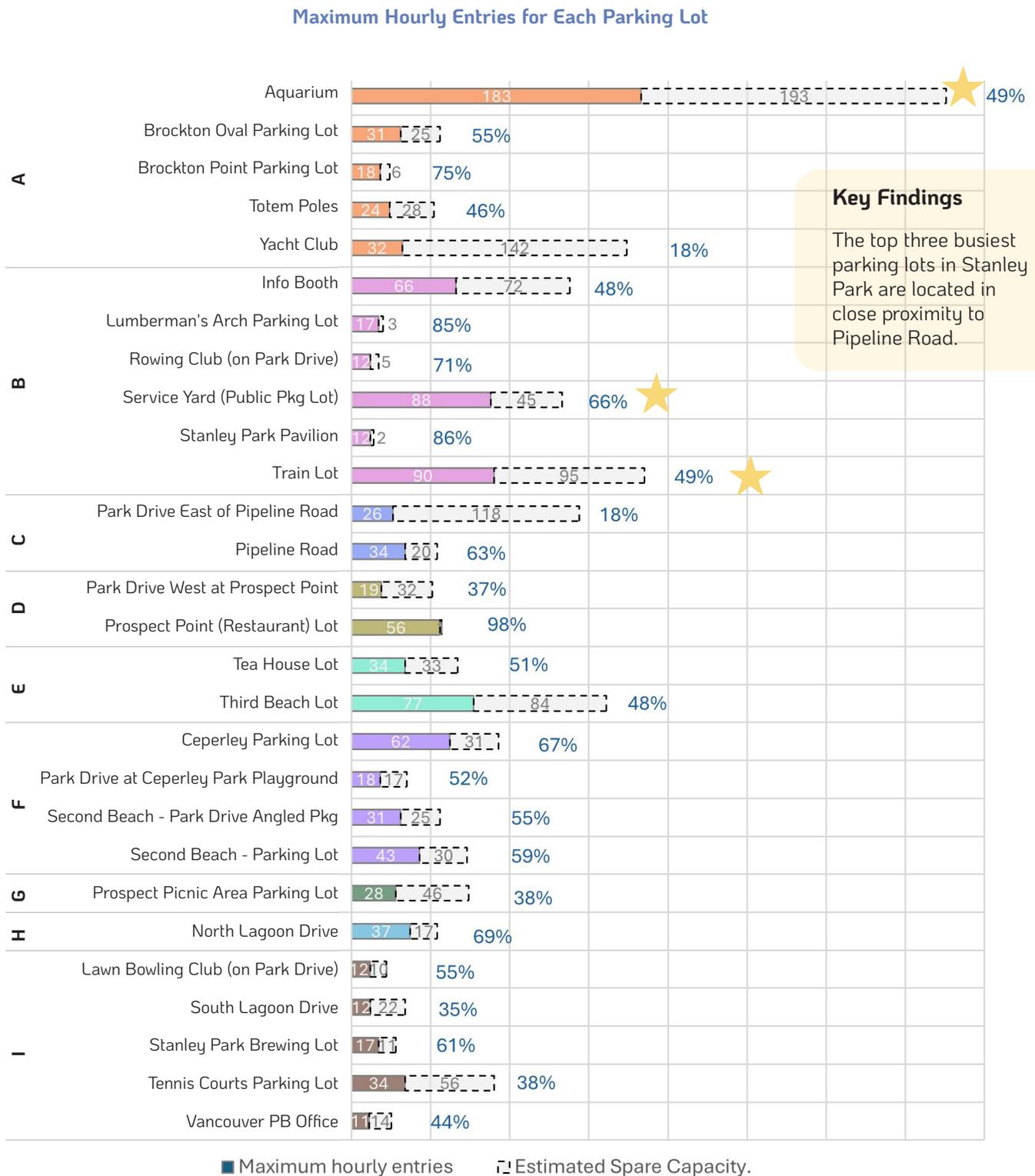
This includes the current reliance on vehicles for persons with disabilities and seniors, and the need for some to use vehicles to travel with family or cargo and to visit places like the Aquarium, event spaces, and marinas. Businesses, on the other hand, have expressed concerns about access for tourists, and for park business staff who may require access throughout the day, in addition to the evenings. Through engagement sessions in the Mobility Study, it was understood that access for operational vehicles servicing the Aquarium would need to be maintained. Based on additional analysis of parking data and information collected from intercept surveying of park users in Stanley Park, some of the other mobility and business concerns could potentially be managed by consolidating vehicle access into central area(s) within the park, both for access and road efficiency.

5.7.1 Major Destinations Accessed by Vehicle

Although vehicles are allowed to travel throughout Stanley Park, data suggests that many who drive are going to destinations located in the central area of the park. This is seen most clearly through parking data, which shows that the Aquarium, Service Yard, Info Booth, and Stanley Park Train parking lots see the highest vehicle demand (see **Figure 5.4**). Located within the area of the park that is the most densely populated with attractions, these parking lots allow visitors to leave their vehicles within walking distance of attractions like the Aquarium, the Stanley Park Train, and Malkin Bowl.

⁷ https://www.britishparking.co.uk/write/Documents/Library/Parking_Management_and_Strategies-_IHT.pdf

Figure 5.4: Spatial Distribution of Parking Demand

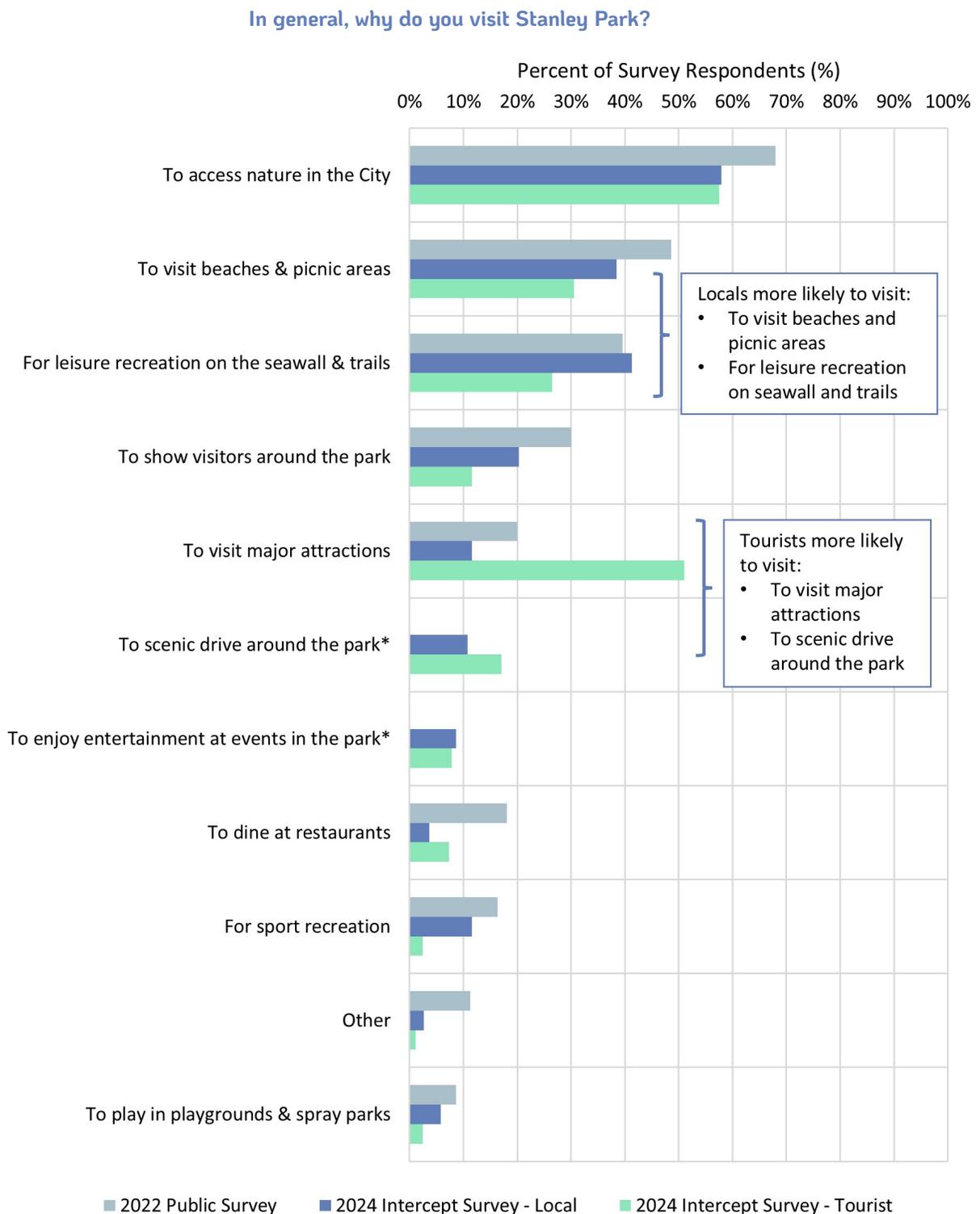


5.7.2 Differences in Vehicle Access Demand – Locals Versus Tourists

There are also significant differences in demand for vehicle access demand between locals (from Metro Vancouver) and tourists (visiting from outside the Metro Vancouver). Based on results from intercept

surveys of visitors in the park, a notable percentage of vehicle demand in the central area of the park likely comes from tourists, who say they are more likely to visit a major attraction in the park (see **Figure 5.5** below). On the other hand, locals are more likely to visit beaches, picnic areas, the Seawall, and/or trails.

Figure 5.5: Stated Reasons to Visit Stanley Park



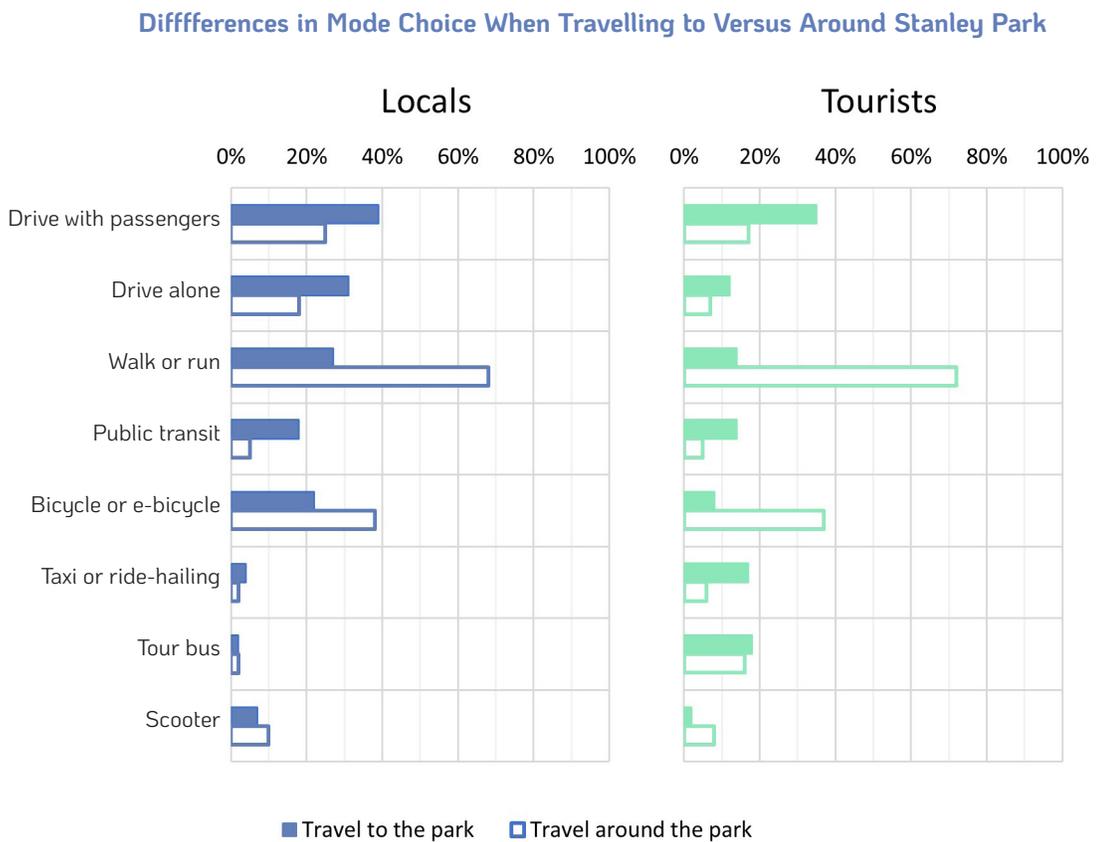
5.7.3 Mode Shift

Through the data analysis and public surveys, it was clear that there is a mode shift that happens when people get to the park, versus how they travel once they are in the park. It was determined that the demand for vehicle travel decreases once people are already in the park, with visitors instead choosing to travel by foot or bicycle. This can be seen in **Figure 5.6**, which shows how walking, running, and bicycling are the modes most typically used to travel around

Stanley Park among tourists and locals, as measured with the 2024 intercept survey.

These travel patterns could inform the implementation of two key opportunities alongside one of the mobility options to not only maintain a level of vehicle access for businesses who need it, but also to further enhance the park experience. This includes opportunities to consolidate vehicle access in specific or central areas, while promoting active travel.

Figure 5.6: Mode Shift



Hop-on Hop-off Bus, Stanley Park (Photo by Emily Holmes)



5.7.4 Vehicle Access Considerations

Given that there is a distinct difference in mode choice for travel to and around Stanley Park, parking supply could be limited to servicing the initial trip to Stanley Park for those accessing it via private vehicle, and not subsequent trips within the park. By consolidating vehicle access close to as many key destinations as possible (i.e., in the Aquarium, Brockton Point, and Hallelujah Point areas), the number of vehicles driving through Stanley Park could be limited while maintaining private vehicle and tour bus access for these major destinations.

Two of the top three most-used lots—the Train Lot and Service Yard—are accessible from Pipeline Road, which could remain open even as the mobility options are implemented. By increasing the capacity of these two lots, they could act as a centralized parking area to help maintain a level of access for businesses in the central area of the park.

5.7.5 Active Travel Considerations

The observed mode shift for trips around Stanley Park relative to travel to the park demonstrates a strong desire for visitors to use active transportation once they are inside the park. To enhance park experience, active transportation could be promoted further by improving the connectivity and navigability of existing trails and cycle paths, and by introducing innovative transportation options.

Further details of this analysis can be found in **Appendix F**. Accessibility throughout the park is an ongoing need and focus of discussion, and will continue as the project moves to the implementation phase (refer to **Section 6**).

5.8 Transit Analysis

All six options include an assumption of the provision of transit or a shuttle service that is fully accessible and efficient, and that travels around the park to all key destinations. The intent is to allow visitors of all ages and abilities to move around the park efficiently—even if, in some options, private vehicle access is restricted. However, the implementation of transit or a shuttle service is complex and requires further planning. Most notably, transit service requires advanced planning with key partners like TransLink,

the Coast Mountain Bus Company, and the City of Vancouver, among others. This section provides an overview of these considerations. A complete transit service design analysis is given in **Appendix H**.

5.8.1 Overview of Transit Implementation Considerations

At a high level, some options support transit efficiency and implementation more than others. **Table 5.3** below compares considerations for transit implementation across the six potential options.

Table 5.3: Transit Implementation Considerations for the Six Mobility Options

Mobility Option	Impact on Bus Speed and Reliability	Impact on Routing	Other Considerations
A – Time-Based Vehicle Access Restrictions	Positive Lower vehicle volumes mean less congestion. Impact depends on how strict the restrictions are.	Allows two-way service Routes could be designed to operate in two directions, improving travel time and legibility ⁸ for customers. The number of bus stops and shelters needed would roughly double.	
B – Vehicle Time Slot Bookings			
C – Park Drive with Dedicated Bus Lane	Positive The only remaining source of delay in the park would be pedestrian crossings, and cyclists using bus lane. (Dedicated transit lane must be on the right to allow access to bus stops.)	None	
D – Park Drive with Dedicated Bike Lane	Negative Congestion may be worse than today, as buses would be forced to share a single travel lane with cars and with horse and carriage tours (on the east side of the park).	None	If buses don't have access to the right-hand curb, potentially costly mitigations are needed.
E – Car-Free Park Drive with Dedicated Bike Lane & Dedicated Bus Lane	Very Positive Only remaining source of congestion would be pedestrian crossings. This would also reduce car traffic on West Georgia Street/Pender Street, as fewer people would drive to the park.	None	If buses don't have access to the right-hand curb, potentially costly mitigations are needed.
F – Car-Free Park Drive with Active Transportation & Shuttle/Transit Only	Positive Would be beneficial because no one could drive to the park, reducing congestion on Stanley Park Drive as well as on West Georgia Street and Pender Street. Speed would be neutral effect, as shuttle would need to be limited to 15 km/hr.	May allow two-way service⁹ Routes could be designed to operate in two directions, improving travel time and legibility ⁸ for customers. The number of bus stops and shelters needed would roughly double.	

⁸ Legibility refers to the ability of an occasional passenger to figure out how to get somewhere by bus. Source: <https://www.planetizen.com/node/40339>

⁹ More detailed analysis would be needed as part of future transit planning work to confirm the safety implications of having two-way service in conjunction with Option F.

As mentioned in **Section 5.3** above, while Stanley Park Drive may have the capacity for one lane as described in **Section 5.4**, Option D provides a challenge for transit implementation, as buses would be forced to share a single travel lane with cars and, in the eastern portion of the park, the horse and carriage tours. This lane-sharing can impede travel and cause delayed or unreliable service. On the other hand, with two lanes still allocated to vehicles, Options A and B could allow for bidirectional travel, which would improve travel time and reliability for customers.

With potentially significant impact on capital costs, transit implementation with Options D and E would require costly mitigation measures associated with buses not having access to the right-hand curb, as a result of the dedicated active transportation lane. Infrastructure like “floating” bus stops down the centre of Park Drive at key intervals would be required.

5.8.2 Transit Circulation

An important consideration when designing transit is how it will circulate around Stanley Park. The geography of the park significantly limits where standard buses can realistically go. So, there are trade-offs that need to be explored so transit can help visitors access all areas of the park. TransLink’s *Burrard Peninsula Area Transport Plan*, currently underway, will be an important resource to reference during this work. This plan currently proposes an extension of Route 23 to Second Beach and a new circular “Route C”, which would provide service around the park.

While the details of a potential transit service cannot be determined without coordination with TransLink, preliminary analysis shows that there is potential in using transit to maintain a level of access throughout the park. By using a loop-based path that goes through Avison Way in the eastern portion of the park, transit could potentially put visitors within a five-minute walk of most destinations in the park.

5.8.3 Transit Accessibility

Any transit or shuttle service implemented in Stanley Park would conform to universal design guidelines for transit vehicles that allow for use by people with mobility, sensory, and other types of disabilities. Through engagement sessions held as part of this study with the Persons with Disabilities Advisory Committee, it was questioned as to whether modern, low-floor accessible transit services could provide a level of access similar to that of private vehicles for some persons with disabilities. The relative reduction in access is the result of the nature of public transit

service that operates on a schedule and can only drop people off at predetermined stops. Even with services like HandyDart, which can drop passengers off at their destination, persons with disabilities would have to pre-plan their trips to the park. Given these considerations, further engagement with persons with disabilities, TransLink, and/or a Shuttle Working Group is needed to facilitate measures to help improve accessibility within the park.

5.9 Summary of Detailed Operational Analysis

All of the findings of the detailed operational analysis outlined in this section are summarized below. Many of these considerations are analyzed further, with recommendations on how to address these issues moving forward.

Table 5.4: Summary of Detailed Operational Analysis

Consideration	Summary
One-Lane Capacity	<ul style="list-style-type: none"> • There is currently sufficient capacity within Stanley Park for current levels of motor vehicles to be served by one lane. • However, the impacts of having one lane on horse and carriage tours, emergency vehicles, and operational vehicles must be assessed further.
Tour Buses	<ul style="list-style-type: none"> • A notable number of tour buses drive through Stanley Park. • The impact on tour businesses of vehicle restrictions along Stanley Park Drive should be considered, and appropriate mitigation measures should be identified before implementing a mobility option.
Parking Revenue Impact	<ul style="list-style-type: none"> • Parking is a significant source of revenue for Stanley Park. There is currently insufficient information to diligently forecast how changes in the transportation network in Stanley Park may affect revenue from parking. Therefore, it is imperative to conduct further analysis and gather data to better understand how parking revenue may be impacted by a car-free environment, and how revenue may be offset.
Major Destinations Access	<ul style="list-style-type: none"> • Most destinations accessed by vehicle are located in the central area of the park and around the periphery (around Prospect Point, Third Beach, and Second Beach). • A notable percentage of vehicle access demand in the central area of the park likely comes from tourists, while vehicle demand for destinations around the periphery of the park is higher for locals. • There is a desire among visitors to travel around Stanley Park on foot or bicycle, even if they arrive at Stanley Park using a motor vehicle. There is an opportunity to further promote active intra-park travel.
Transit	<ul style="list-style-type: none"> • There are several considerations that need to be planned and discussed with TransLink before implementation. This includes operating models, routing, and infrastructure needs. It may not be feasible for transit to be implemented soon. • Shuttle service may be implemented, but is also subject to the rules and regulations around independent transit services (ITS) set out in the South Coast British Columbia Transportation Authority (SBCTA) Act.

6

Recommendations & Phasing Strategy

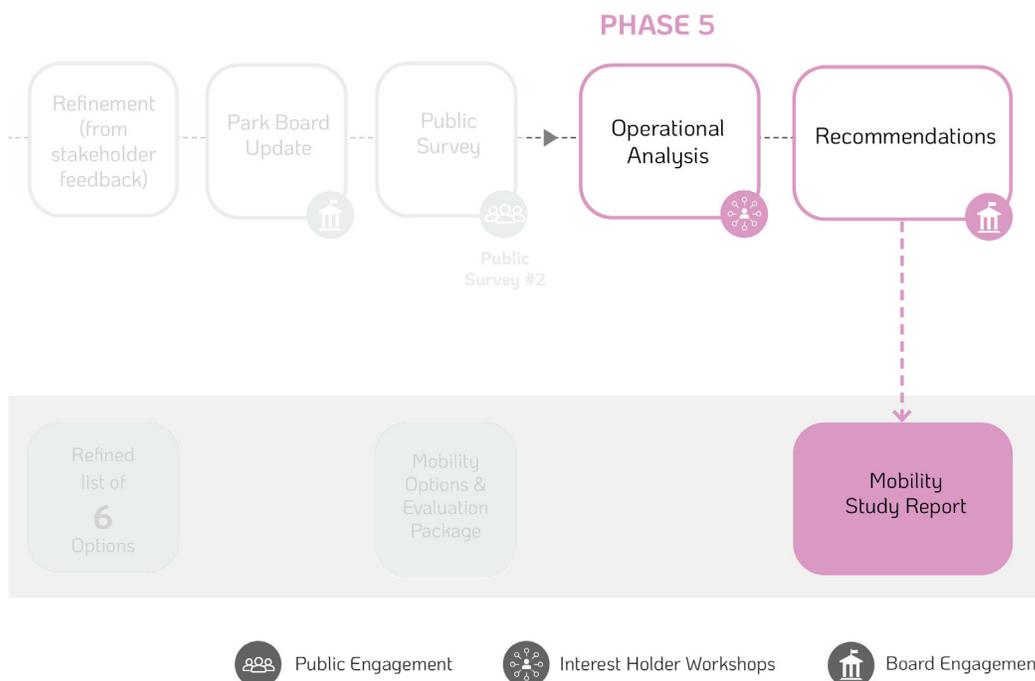
Stanley Park is a large urban park, with complex access issues, high volumes of visitation, and a fragile environment worth protecting. Considering the goals of the project, the need to improve access to Stanley Park for everyone, and to maintain the qualities of the park that everyone has come to love, a future strategy needs to be both robust and flexible to accommodate the park’s different conditions and changing needs. Based on the initial project intent, option evaluation results, engagement results, and further detailed operational analysis, a set of recommendations and a phasing strategy is presented below.

Although results from the online survey show a significant body of support to reallocating at least one lane of Stanley Park Drive for active transportation

(Option D) and implementing a car-free option (Options E and F), there are several uncertainties that need to be managed and questions that need to be answered before committing to a single vision for the future of mobility in Stanley Park. In addition, there are several considerations related to the timing of implementing transportation changes in the park.

A phased approach to implementation is therefore recommended, as it affords the time to pilot, examine, analyze, and make informed decisions on the best future outcomes while meeting current and imminent needs for access, safety, wayfinding, operations, and the overall experience of the park. Considerations for phasing are provided below in **Section 6.1**, with a detailed phasing strategy outlined in **Section 6.2**.

Figure 6.1: Recommendations Process



6.1 Phasing Strategy Considerations

This proposed phased approach was developed in part to account for time-related factors, including the changing landscape and future of mobility, funding and economic considerations, impacts on and accommodations for businesses, and upcoming major events.

6.1.1 The Future of Mobility

Traditional transportation planning has been driven by adhering to trends and the nature of the world that is known as ‘predict and provide’. However, there is currently a process of significant change in society and mobility, as the digital age has collided with, and is disrupting, the motor age. Social, technological, economic, environmental, and political drivers are at play, creating deep uncertainty over what the future of transportation might look like.

It is a reasonable assumption that for the next 10 to 15 years there will not be any major changes in transportation technology and that, while the City of Vancouver is actively implementing policies to reduce demand and traffic, regional volumes and the demands on existing infrastructure will increase. In order to plan for the future, it is critical to consider what mobility in general will look like in the short, medium, and long term.

Societal Changes

As shown in numerous surveys in recent years on travellers’ outlook on future mobility, there is a growing public desire and support for non-motorized or low-carbon transportation alternatives, both locally and globally. The findings of a literature review¹⁰ are presented in **Table 6.1**.

Table 6.1: Summary of Surveys on Traveller Outlook

Source	Publication title	Traveller Outlook on Future Mobility
McKinsey (2023)	The future of mobility ¹¹	Based on a survey conducted in 2022, McKinsey found that: <ul style="list-style-type: none"> • Almost one-third of respondents (30%) plan to increase their use of micromobility (for instance, e-bikes and e-scooters) or shared mobility over the next decade. • Nearly one-half of respondents (46%) are open to replacing their private vehicles with other modes of transport in the coming decade. • Most respondents (70%) are willing to use a shared autonomous shuttle with up to three other travellers; 42% of those trips would otherwise be taken by private vehicle.
PwC (2024)	Consumer perspectives on the future of mobility ¹²	Based on a 2024 “Voice of the Consumer” survey, PwC found that: <ul style="list-style-type: none"> • While the internal combustion engine is becoming less popular, 89% of [travellers] say they will continue driving over the next three years. • Concern about climate change is a major influence on [car-purchasing] purchasing decisions. • [There is] some optimism for autonomous vehicles, [with]... one in four respondents say they are highly comfortable with autonomous vehicles for commuting, goods delivery and local travel. • Consumers are eager to find solutions to traffic problems, [with] nearly three-quarters say[ing] that they would use public transport if their area had better infrastructure.
City of Surrey (2022)	Corporate report: Surrey Transportation Plan Phase 3 - Engagement Results ¹³	As part of an update to the Surrey Transportation Plan, Phase 3 engagement results show that there is strong support for: <ul style="list-style-type: none"> • Improved transit, not just rapid transit but also conventional frequent bus service. • 15-minute neighbourhoods were proposed as a way to measure progress towards building complete communities. • Investment in green transportation choices.

¹⁰ The literature review was based on a search for (1) reports by Big Three and Big Four management consulting firms discussing the future of mobility and (2) reports by Metro Vancouver municipalities summarizing engagement sessions that supported updates to a long-range transportation plan.

¹¹ https://www.mckinsey.com/~/_media/mckinsey/industries/automotive_and_assembly/our_insights/the_future_of_mobility/the-future-of-mobility.pdf

¹² <https://www.pwc.com/gx/en/issues/reinventing-the-future/smart-mobility-hub/consumer-perspectives-future-mobility.html>

¹³ https://www.surrey.ca/sites/default/files/corporate-reports/CR_2022-R032_0.pdf

In summary, travellers expressed:

1. Support for improved transit, with some survey responses explicitly stating that private vehicle users would shift modes.
2. Support for more environmentally friendly options than internal combustion engine vehicles, whether by shifting to electric (or other low-carbon fuel source) vehicles or by shifting to non-motorized modes.

Technological Developments

Alongside this shift in traveller outlook on future mobility, there are concurrent rapid developments in technology, including the development of electric and other low-carbon vehicles, as well as the development of autonomous vehicles and “mobility-as-a-service” providers.

Electric and Other Low-Carbon Vehicles

Coinciding with a rise in public desire for environmentally friendly transportation, electric and other low-carbon vehicles are becoming more popular. According to a report by the International Energy Agency (IEA),¹⁴ electric cars accounted for 18% of all cars sold globally in 2023. In addition, the IEA projects that more than one in four vehicles on the road will be electric in 2035, if current market trends and expected technological developments continue, and if existing policies and measures from government agencies remain in place. On average, this projection shows an average 23% growth year on year from 2023 to 2035. While electric and other low-carbon vehicles support climate change, their adoption likely has a minimal impact on the key targets of the Stanley Park Mobility Study.

With respect to parking, while real-life data is not yet available comparing the travel habits of low-carbon vehicles and internal combustion engine (ICE) vehicles (controlling for demographic data), low-carbon and ICE vehicles share core mobility characteristics. They both allow for convenient, private, long-distance travel and are easy to use for those with mobility impairments. Therefore, given that most vehicle travel to Stanley Park is dominated by those who have a condition impacting their mobility, by those who don't have access to other modes (e.g., tourists), and by those who live far away, the transition away from ICE vehicles (independent of the general societal shift towards environmentally friendly transportation) likely will not influence mobility within Stanley Park.

Similarly, low-carbon vehicles still require parking spaces, like ICE vehicles, so the expected change in revenue generation is likely to be minimal. There may also be an opportunity for the Park Board to implement charging stations where the impacts of new infrastructure are limited.

Autonomous Vehicles and Mobility-as-a-Service

Alongside electric and other low-carbon vehicles, there has been increasing investment and interest in autonomous vehicles by several private companies. With the advent of autonomous vehicles, while visitors may continue to go to Stanley Park using a motor vehicle, there is a probability that parking demand will plummet, as vehicles may be directed to return to home without their owner.

S&P Global, a company that provides annual reports on the outlook of mobility, published a discussion on when we may expect to see autonomous vehicles on the roads.¹⁵ While S&P is generally optimistic about the progress towards autonomous vehicles, they note that “for the next decade, widespread implementation of autonomous technology will not be realized”.

That said, autonomous vehicles may be sufficiently advanced to operate within the park and support intra-park travel. In the same article, S&P noted that, “for the next decade, autonomous tech will be limited to two specific areas: geofenced robotaxis operated by fleets in specific areas, and hands-off systems with various safeguards in personal vehicles that will still require some form of driver engagement.”

Figure 6.2: The Future of Mobility – Example Automated Shuttle, Implemented in the Town of Cary in North Carolina, U.S.



Source: <https://ridebeep.com/locations/cary-nc>

¹⁴ <https://www.iea.org/reports/global-ev-outlook-2024>

¹⁵ <https://www.spglobal.com/mobility/en/research-analysis/autonomous-vehicle-reality-check-widespread-adoption.html>

TransLink's Technological Advancements

In their Access for Everyone report (approved June 30, 2022), TransLink made commitments related to technological developments in transportation. Investments made by the regional transportation agency will likely have an impact on visitors' expectations of mobility within Stanley Park, so it is crucial to be aware of these investments.

With respect to electric, connected, and automated mobility, TransLink states that in the first 10 years, they plan to deliver on the following two major areas:

- Support the expansion of electric vehicle fast-charging for electric shared, commercial, and personal mobility (including micromobility).
- Pilot and invest in advanced bus driver assistance systems, focusing on safety and customer experience improvements (e.g., object detection, collision avoidance, automatic braking, lane-keeping assist, curbside assist) and operational efficiency (e.g., self-parking in depots).

It is noted that increased adoption of personal mobility may promote demand for active travel within Stanley Park.

A phased and flexible solution in Stanley Park will be able to accommodate this uncertainty in the future of mobility while working through future trends and needs in the park systematically.

6.1.2 Funding & Economic Considerations

There are also pragmatic considerations related to costs and funding for the implementation of mobility options in Stanley Park.

Construction Cost Estimates

High-level (Class D type, 30% variance) construction cost estimates (in Canadian dollars) have been developed for each of the six options, based upon typical 2024 construction index pricing, as summarized in **Table 6.2**. More detailed cost breakdowns are included in **Appendix J**.

Table 6.2 indicates that construction cost estimates will vary significantly between options. Options C, D, and E are notably more expensive to implement than Options A, B, and F. The cost estimates for dedicated new bus transit and/or bike lanes include robust construction methodologies, assuming resurfacing and markings throughout the lane spaces. This has increased the costs for Options D, C, and E relatively by the amount of new surfacing. Additionally, Option D (dedicated bike lane) assumes a raised bike lane profile, which requires significant new surface water drainage infrastructure, further increasing costs. Traffic management costs during the construction phase, included under General Requirements, are calculated based on overall construction costs. Consequently, these costs are significantly higher for Options C, D, and E compared to Options A, B, and F.

The cost estimates shown in **Table 6.2** represent the capital funding required to implement each option, starting from the park's current conditions. The cost range reflects the necessary components for each option. Some options can be implemented gradually, reducing overall costs, while others can be executed in phases.

For example, both Option D and Option E require a physical separation between two lanes of Stanley Park Drive. Therefore, Option D could be integrated into Option E, with only the additional costs needed for the upgrade.

Similarly, Option A could eventually be incorporated into Option F, as they share the same infrastructure. Option A is essentially the same as Option F, but only during certain times of the week. Thus, while the cost to implement Option A is around CAD \$1 million, the cost to upgrade from Option A to Option F is minimal.

Several key assumptions have been made to enable the cost estimation exercise as outlined for each mobility option in **Appendix J**.

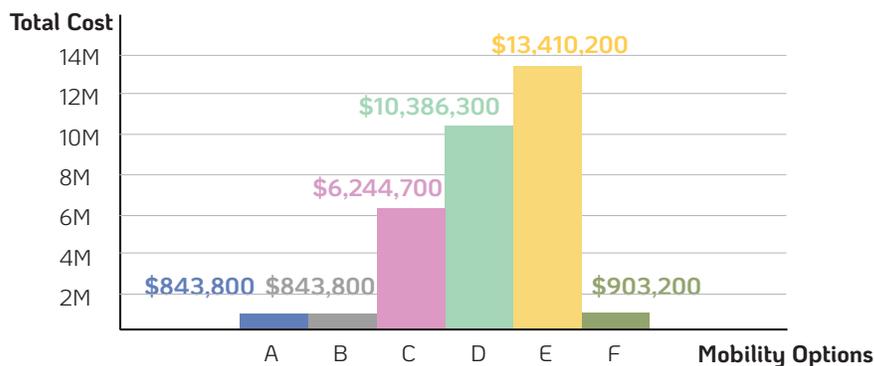
Table 6.2: Cost Estimation Summary

No.	Description	Option A Time-Based Vehicle Access Restrictions	Option B Vehicle Time Slot Booking	Option C Park Drive with Dedicated Bus Lane	Option D Park Drive with Dedicated Bike Lane	Option E Car-Free Park Drive with Dedicated Bike Lane & Dedicated Bus Lane	Option F Car-Free Park Drive with Active Transportation & Shuttle/ Transit Only
1.0	General Requirements	\$90,400	\$90,400	\$669,100	\$1,112,800	\$1,436,800	\$96,800
2.0	Concrete Walks, Curb & Gutter	\$320,000	\$320,000	\$320,000	\$1,844,500	\$3,239,500	\$320,000
3.0	Roadway Excavation, Embankment & Compaction	\$59,900	\$59,900	\$59,900	\$1,141,600	\$100,600	\$59,900
4.0	Granular Layers	\$36,800	\$36,800	\$36,800	\$1,843,200	\$101,500	\$36,800
5.0	Asphalt	\$0	\$0	\$4,807,400	\$2,968,200	\$8,176,800	\$0
6.0	Pavement Marking & Signage	\$27,700	\$27,700	\$81,500	\$52,200	\$85,000	\$80,700
7.0	Utilities	\$0	\$0	\$0	\$1,153,800	\$0	\$0
8.0	Transportation Infrastructure	\$309,000	\$309,000	\$270,000	\$270,000	\$270,000	\$309,000
TOTAL		\$843,800	\$843,800	\$6,244,700	\$10,386,300	\$13,410,200	\$903,200
COST FOR FUTURE UPGRADE						Upgrade from D to E: \$3,023,900	Upgrade from A to F: \$59,400

Note: High-level (class D type, 30% variance) construction cost estimates, based upon typical 2024 construction index pricing.

Source: Mott MacDonald, modification of standard MMCD payment items.

Figure 6.3: Total Cost Chart



Note

Option A and Option B are identical in costs, as they require the same infrastructure in order to be realized.

Park Board Capital Funding Cycle

The mobility options that received the highest levels of public support require a considerable investment in infrastructure. The Park Board follows a four-year capital funding cycle, with the next cycle commencing in 2027. A committed investment in mobility infrastructure would require advance budget resource allocation appropriately integrating with this cycle.

Parking Revenue

As discussed in **Section 5.6**, parking represents a significant portion of revenue generated by the Park Board. Policies or measures that offset any expected reduction in parking revenue in Stanley Park may need to be implemented alongside mobility options that reduce private vehicle access to the park. A preliminary parking revenue impact analysis was conducted as part of this study, but further work, including observational data collected during pilot car-free days, would be required to assess the impact of vehicle restrictions on parking revenue.

6.1.3 Financial Impacts on Businesses

A key concern for park interest holders was the impact of these changes on their business and revenue generation. Time is needed to assess the impact of vehicle restrictions on Stanley Park businesses, and how these impacts could be mitigated through a variety of future accommodations. Through the examination of other major urban parks around the world, changes in vehicle access, for example, resulted in challenges, but also significant benefits. Further testing is needed to determine if businesses in Stanley Park would benefit from changing mobility patterns or what could be done to make improvements. Most importantly, businesses need time to plan, adjust, and operate with a certain level of consistency or predictability in and among mobility system changes; a phased strategy can provide that.

6.1.4 Construction Activities in the Park

The next five years in Stanley Park will see several construction projects happening in or near some of the busiest areas of the park. Each project will present opportunities as well as challenges that will have a direct impact on the transportation system, and any future changes contemplated in this study.

Metro Vancouver Cap5C Project

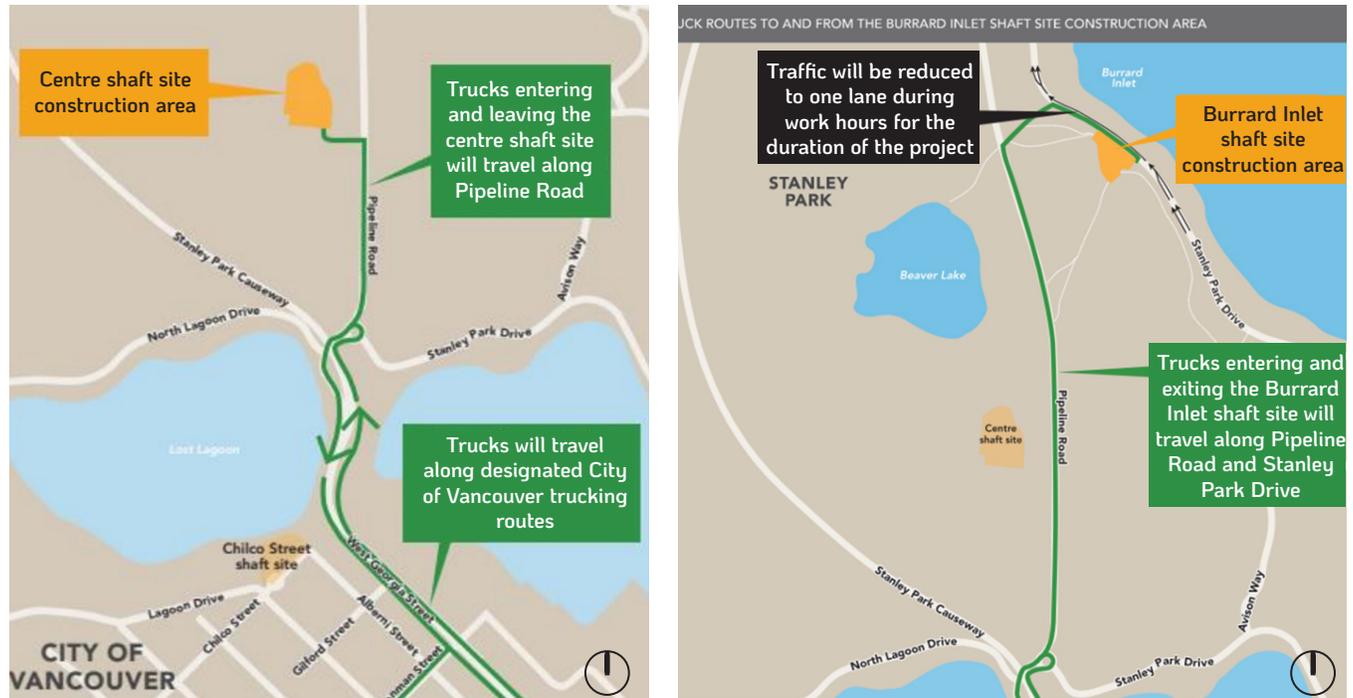
The Metro Vancouver Cap5 construction project is set to run from late 2024 to 2029. During this time, there is an expected increase in truck traffic volumes along Pipeline Road and on specific areas of Stanley Park Drive to various construction areas. There are three major work areas, with large shafts being constructed down to the future water main corridor underground. The construction started at the centre shaft site in October 2024 and the Burrard Inlet shaft site area in early 2025. **Figure 6.4** shows the two shaft site locations within the Stanley Park Road network.

During this time, overall roadway capacity will be constrained due to the presence of trucks, while traffic will be reduced to one lane along Stanley Park Drive, east of the intersection with Pipeline Road. This will likely increase vehicle volumes around the park displaced by truck traffic and looking for alternate routes. Overall, changing major transportation features along Park Drive is not advisable during this time. The scheduled timeline for this project must be considered and incorporated into the proposed phasing of mobility options.

Aquarium Renovation

Construction is expected at the Vancouver Aquarium between 2026 and 2027. Similar to the anticipated impacts of the Metro Vancouver Cap5C project on traffic operations, this proposed Aquarium construction likely limits the possibility for changes needed for any mobility options, specifically for implementation along the eastern side of the park while construction occurs, due to heavier than usual truck traffic and potential displaced vehicle traffic.

Figure 6.4: Metro Vancouver Cap5C Project: Diagram Showing the Centre Shaft Site Construction Area (left) & the Burrard Inlet Shaft Area (right)



Source: Park Board Committee Meeting on July 17, 2023, titled GREATER VANCOUVER WATER DISTRICT'S STANLEY PARK WATER SUPPLY TUNNEL PROJECT - Agreement¹⁶

6.1.5 Upcoming Major Events

There are several major events that occur on a regular basis in Stanley Park that will require some future planning to enable any changes to the area's transportation system. Developing over time and piloting options in a logical or sequential order will provide a better framework from which to accommodate or enhance public events in the park. Events happening in or near Stanley Park present opportunities as well as challenges that should be explored further, regardless of the option, but dependent upon which options are considered.

FIFA World Cup 2026

BC Place Stadium in Vancouver will host seven matches (including at least two matches for the Canadian men's national team) between June 13th and July 7th, 2026, during the FIFA World Cup 26. The event will generate a significant number of visitors to the city, both during the event (in June and July of 2026) and in the years following. As stated in a Government of British Columbia news release, "*The economic benefits of hosting are estimated to include more than one million out-of-province visitors between 2026 and 2031, generating more than \$1 billion in additional visitor spending.*"¹⁷

There will be a significant number of visitors to Vancouver before and for each match. Most of these visitors will arrive by air, relying upon public transit and active transportation modes to enable local mobility. It will not just be ticket-holding soccer fans who arrive in the city; typically, thousands of non-ticket holders also travel to be close to the event. In between matches, tourist destinations throughout B.C. will attract more visitors, and Stanley Park will certainly be no exception.

¹⁶ PRESENTATION: Greater Vancouver Water District's Stanley Park Water Supply Tunnel Project - Land Use Agreements: 2023 JUL 17

¹⁷ <https://news.gov.bc.ca/releases/2024TACS0014-000662>

6.2 Phasing Plan Introduction

As outlined above, there are several considerations with respect to the timing of longer-term future mobility changes in Stanley Park. There are also major funding considerations, further revenue analysis, and impacts on businesses that need to be studied using real-world piloted experiences. On top of all of this, there are construction activities in the park that will impede any permanent implementation of options within the next five years. Meanwhile, major events, including the FIFA World Cup 26, will bring a high number of tourists to Vancouver and Stanley Park, further supporting the approach of testing options through pilots and other studies.

Option A (Time-Based Vehicle Access Restrictions) did not receive the same level of support from the public, likely due to outstanding questions around the nuances of that option, such as what time of day and how frequent closures to private vehicles would be, what kind of transit access would be included, and how closures would be communicated to the public. However, Option A is the simplest option to implement. Option D (Park Drive with Dedicated Bike Lane) was the most supported option in the public survey. However, there are operational challenges that

need to be examined, design work that will need to be performed, and capital funding that will need to be secured. So, implementation of Option D would not be recommended until major construction activities in the park has been completed.

Piloting options in a logical or sequential order, while building in time to plan and prepare for options with major changes in Stanley Park, will provide a better framework from which to accommodate all of these needs in Stanley Park. Therefore, a phased implementation program is recommended, with several overlapping processes and stages. At a high level, this implementation program gives the Park Board time to secure adequate budget resources and to conduct further work on key implementation and access-related considerations. The program includes key critical decision points defining the phases of work—recognizing that changes between options are more easily done for certain pairs of options, based on the effort to “upgrade” infrastructure from one option to the next, as outlined in the construction cost estimate section.

An overview of the phasing strategy is provided, as depicted in **Figure 6.5**, with full details provided in **Appendix K**.

Visitors in Stanley Park Near Lost Lagoon (Photo by Emily Holmes)



6.2.1 Short-Term Approach (Phase 1 Overview)

Due to the various upcoming activities anticipated in the park and the complexity in implementing mobility options, this phasing strategy does not include any immediate permanent changes to Stanley Park Drive. Rather, it proposes pilot programs initially in the form of intermittent car-free days and supporting options. This would allow staff time to fully assess the impacts (both positive and negative) of a car-free environment on key interest holders, parking revenue, business opportunities, operational traffic capacity, accessibility, and public opinion. Therefore, based on the outcome of this work, a critical decision point is required at the onset of this Phase 2.

6.2.2 Medium-Term & Long-Term Approach (Phases 2 & 3 Overview)

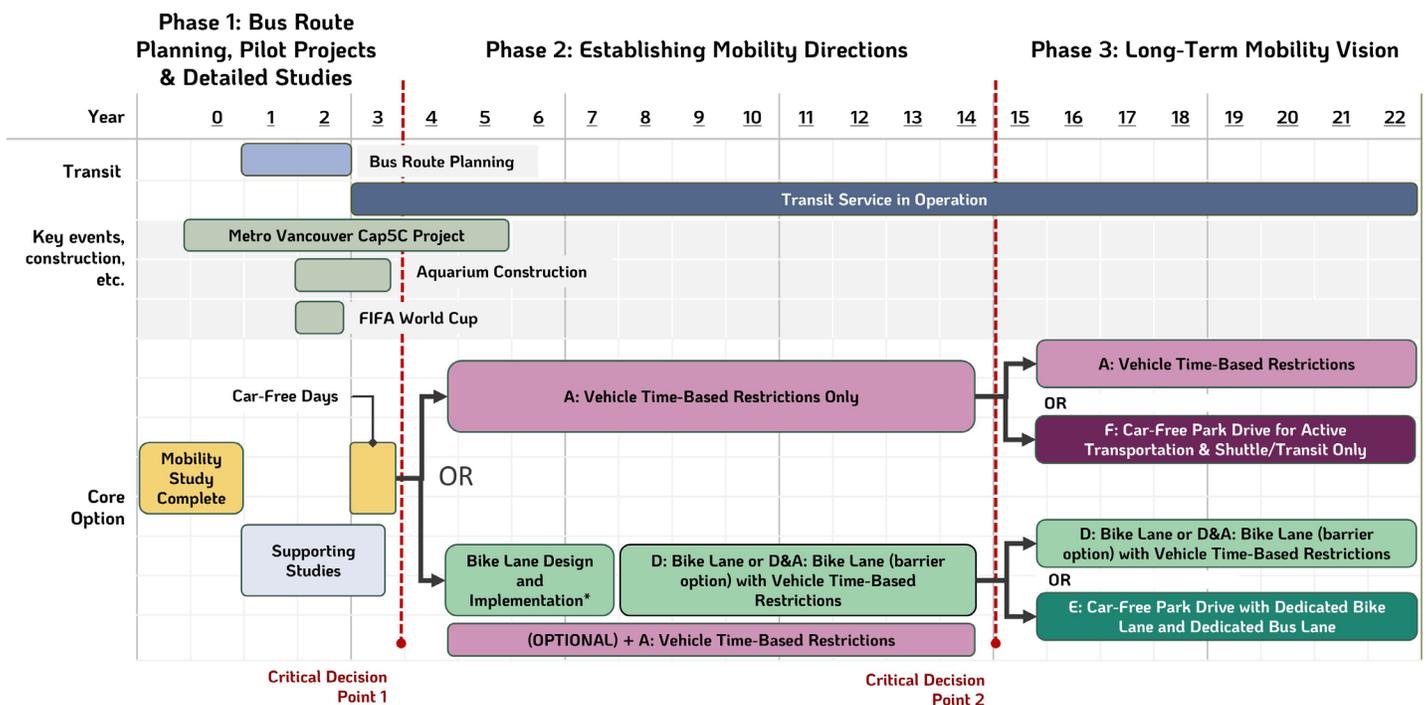
In the long term, the phasing strategy proposes four potential end outcomes based on mobility options that saw the highest level of public support. Options to consider a car-free environment (Options E and F) would likely require many years to further plan, accommodate, and offset any impacts on the park. Interim options in the medium term could be

employed; however, options would either enable or preclude future options. It is important to note that, once a specific stream is chosen, decisions may not be reversible without significant cost. Therefore, critical decision points are indicated in the phasing strategy, with potential staging of options through two main streams, as shown in **Figure 6.5** below:

- **STREAM ONE** – Stream One, which is presented in the diagram below in purple, begins with a purely operational change, and does not require any significant changes in infrastructure. Stream One also maintains the status quo, as implementing vehicle time-based restrictions expands on the idea of car-free days.
- **STREAM TWO** – Stream Two, which is presented in the diagram below in green, would require further design work, as it provides a dedicated bike lane for those who cycle or roll.

It is important to note that the diagram is intended to represent an approximate timeline. The point at which critical decision points occur, or when actions are implemented, may move by one or more years in either direction.

Figure 6.5: Overview of the Proposed Phased Implementation Program*



* In the long term, the phasing strategy proposes four potential end outcomes based on mobility options that saw the highest level of public support in the online survey.
 NOTE: All Implementation (Phase 1-3) tasks subject to funding approval.

6.3 Phase 1: Pilot Projects & Detailed Studies

Given that Phase 1 of the Implementation Plan begins from the present year, the implementation program is most detailed for this period because there is greater certainty around what will happen in the next few years. A diagram of the Phase 1 implementation program is depicted in **Figure 6.6** and in full in **Appendix K**.

The intent of this phase is to provide time for the Park Board to implement pilot programs while conducting further studies to assess the viability of longer-term car-free options on Stanley Park Drive.

In response to the current public demand for a car-free environment, this phase includes the implementation of a car-free days pilot program. This includes between two and three car-free days in the summer of year 3, partnering with businesses, interest holders, and community groups to plan and implement alongside increased tourism and visitation generated by the FIFA World Cup 26. These car-free days may be increased in frequency if found to be successful to car-free weekends. This section provides a detailed outline of actions proposed in Phase 1.

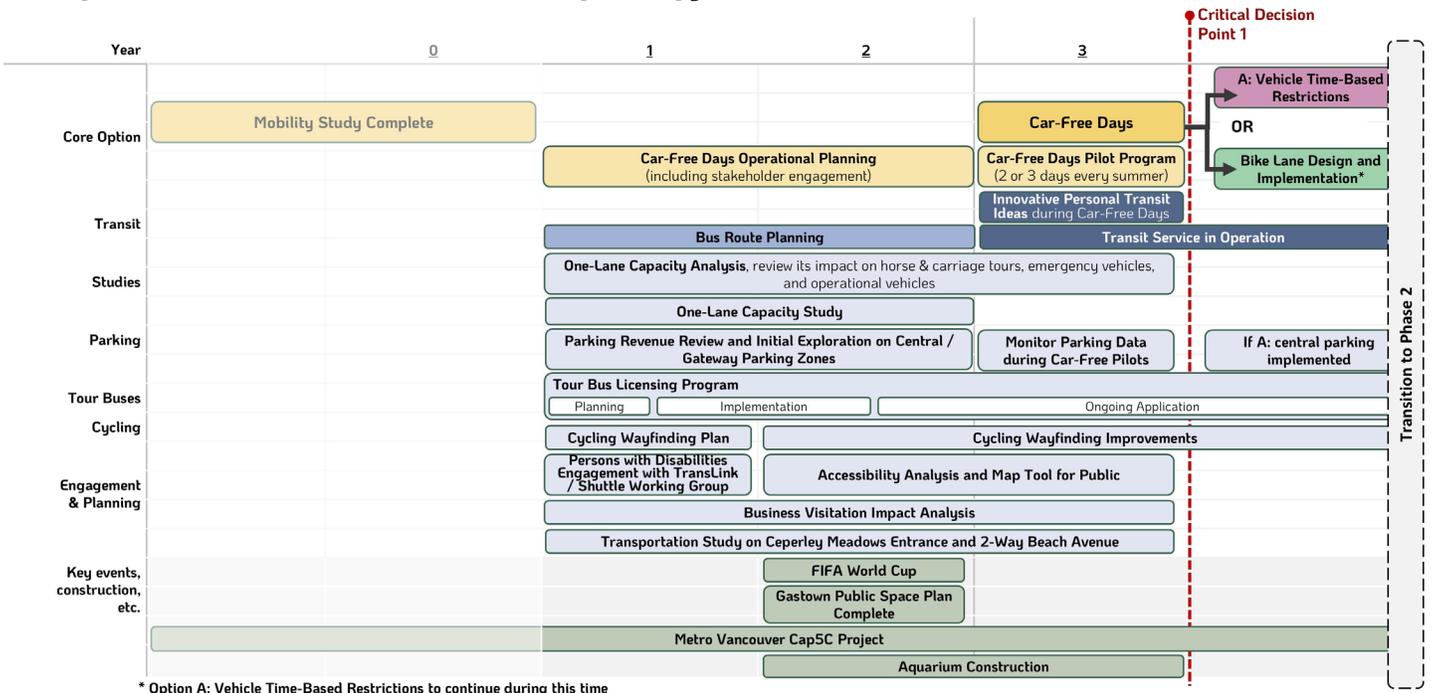
6.3.1 Enhancing Experiences for Persons with Disabilities

Ensuring and supporting access for people with disabilities is a priority of the phasing strategy, and involves a series of actions based on what has been learned and feedback to date.

Accessible Transit/Shuttle Working Group

During engagement with interest holders and the Persons with Disabilities Advisory Group, concerns were raised around ensuring that future transit or shuttle services in Stanley Park are fully accessible. To ensure that future plans put the needs of people with disabilities first, Phase 1 proposes the establishment of a focused working group on accessible transit with TransLink, representative members from the Persons with Disabilities Advisory Group, Park Board and City of Vancouver staff, and other interest holders who support accessibility and transit access in the city. This group, which could include a diversity of users from the persons with disabilities community, including persons with disabilities and seniors with mobility limitations, would convene on a regular basis with TransLink and Park Board/City staff to discuss what a successful accessible transit system looks like for Stanley Park.

Figure 6.6: Detailed Plan for Phase 1 (Phasing Strategy)



NOTE: All Implementation Phase 1 tasks subject to funding approval.

Accessibility Analysis and Public Mapping Tool

Also proposed in Phase 1 is the accessibility analysis of the park and a map tool for the public, which could be easily accessed through the city website, smartphone app, and park signage. An example of this is the successful TfL Go smartphone app, which makes travel easier for Londoners with accessibility needs. The app provides information about a step-free mode, with easy-to-navigate views of all stations with street-to-platform accessibility, and information about the nearest accessible parking.

Figure 6.7: Example Accessibility Map Tool Developed by Transport for London, UK, for the Public



Source: <https://www.taxi-point.co.uk/post/new-tfl-go-app-launched-to-help-londoners-plan-ahead-and-travel-safely>

Increase Accessible Parking

Maintaining access to Stanley Park for persons with disabilities was a recurring theme expressed by members of the public, park interest holders, and the steering committee. As described in the [Mobility Context Report](#), survey respondents who have a disability that impacted their mobility disproportionately travelled around Stanley Park using a motor vehicle.

Currently, 2% or one in 50 of all available parking spaces is accessible. Immediate planning should be done to increase the number of accessible stalls in key destinations in Stanley Park. This work will be done in consultation with the Persons with Disabilities Advisory Group while the other work outlined in this phasing strategy is progressing.

6.3.2 Car-Free Days

One of the core components of the phasing strategy is the introduction of car-free days in Stanley Park. Scheduled to happen in the short term, all or some parts of Stanley Park would be closed to vehicle access for short periods of time (starting with two or three days each summer). Leveraging major local events, car-free days could also be implemented over a weekend. Shuttle and bus service would still be provided during these times to support access for

persons with disabilities and for those who can't use alternative modes of transportation.

The intent of these car-free days is to demonstrate the viability of car-free environments to the public and park interest holders. For visitors, it could help demonstrate how car-free days enhance the park experience. For businesses, it provides an opportunity for owners to assess how car-free environments affect operations. In addition, it provides the ability for Park Board staff to conduct further studies based on observational data.

Repurposing Unused Parking Lots

These car-free days could leverage existing parking lots that already provide a paved surface area. There are several local precedents demonstrating that existing paved surfaces could be used to act as pedestrianized spaces for residents to hold festivals and other social gatherings, including car-free days throughout the City of Vancouver.¹⁸

Case Studies of Car-Free Days

Car-Free Day in Vancouver is an annual vibrant series of community events that transform busy streets into lively public spaces that are free from vehicle traffic. Organized by the Car-Free Vancouver Society in partnership with TransLink, this annual festival celebrates diversity, sustainability, creativity, and community connection.

The events are held on weekend days in the summer and take place in various neighbourhoods, including Commercial Drive, Main Street, and the West End. Each location hosts a unique array of activities, such as live music, street performances, local vendors, and food stalls.

Stanley Park Car-Free Day Concept

Drawing on experience and learning from both car-free temporary installations in both Stanley Park and around Vancouver, car free days in the Park have the opportunity become a major community event offering a different but captivating experience of the Park for a day. The experience could incorporate programmed events, musical acts, food services and family-oriented amusement and recreational opportunities. An operational plan should be developed for the event in consultation with interest holders that incorporates, but is not limited to, vehicle checkpoints, security, access and training for emergency and operational vehicles, pass systems for staff from businesses, accessibility, events planning and coordination, wayfinding and signage, shuttle service, perimeter parking, Park Board staffing requirements and other considerations.

¹⁸ <https://www.carfreevancouver.org/>



LEGEND

--- Car-Free Road (emergency & operations vehicles permitted)

— Roads to remain open to private vehicles

○ Vehicle Drop-Off Point

1 Domino Tain (Guinness Book of World Records?)

2 Pop-Up Event Space with a view (Ferguson Point/ Prospect Point)

3 Slide in the Forest!

4 Hill Challenge

5 Cultural Celebrations on the Move

6 Brockton Point Performances / Cermonies

6 Brockton Point Performances / Cermonies

7 Stanley Park Drive Market

STANLEY PARK CAR-FREE DAY VISION

Figure 6.8: Stanley Park Car-Free Day Vision



6.3.3 Innovative Micromobility Options

Alongside car-free days, innovative micromobility options could also be provided to allow for intra-park travel by modes other than motor vehicles. This would allow the Park Board to encourage visitors not to use vehicles to get around the park and help visitors to experience the potentially unrealized benefits of implementing a car-free environment.

If micromobility devices are provided, this would provide visitors a way to travel around the park quickly and easily (i.e., with low-level physical effort), mitigating the current challenges coming from the fact that internal paths and trails are concentrated in the northern portion of the park, which is difficult to get to, due to the distance from the pedestrian network in downtown Vancouver and the fact that there are hills in this section of the park. Feasibility and prioritization of

sites for potential e-scooter stations would need to be reviewed with City of Vancouver staff to limit impacts on park access, parking space revenue, operations and maintenance requirements, and servicing by the provider.

There are numerous micromobility providers across North America.^{19,20} For example, Veo²¹ provides fleets of both stand-up and sit-down scooters, as shown in **Figure 6.9**, and has implemented programs across North America, including in cities like Long Beach, California, and on various university campuses. Locally, Lime e-scooters were launched in the summer of 2024.²² Such micromobility options will help to create a fun environment that will not only help visitors move around the park more quickly, but also help visitors overcome the physical challenges associated with the hills around Prospect Point.

Figure 6.9: Stand-Up and Sit-Down Scooters from Veo



Source: <https://www.minorityreporter.net/post/city-of-rochester-veo-launch-e-bikes-and-scooters-program>

¹⁹ <https://www.bird.co>

²⁰ <https://www.li.me/en-uy>

²¹ <https://www.veoride.com/locations/>

²² <https://vancouver.ca/streets-transportation/shared-e-scooter-system.aspx>

6.3.4 Improvements to Active Transport Network

In the short term, improvements to the active transport network will help promote active travel within the park. This includes improvements to connectivity and wayfinding.

Improvements to Active Transportation Connectivity

While there is an extensive network of footpaths, trails, and bicycle paths within the park, comfortable active travel connections to/from downtown Vancouver that support people's desire to enjoy nature are fairly limited to the Seawall. In addition, active transportation connections between the Seawall and internal trails are generally bisected by Stanley Park Drive. Increased active transport connectivity may encourage visitors to travel to the park by active modes.

Enhanced Wayfinding

Another relatively simple way to improve the active transportation experience in the park is through the provision of improved wayfinding. The lack of signage for those on foot and bicycle alike was a recurring theme throughout the park interest holder and visitor engagement process; enhanced signage/wayfinding could encourage active travel around the park.

6.3.5 Commercial Vehicle Licensing Program

Commercial vehicles like tour buses and other "people delivery" vehicles are notable users of the transportation network to access park features and amenities throughout Stanley Park. Tour buses are one key transport mode used by tourists to travel to and around Stanley Park. However, reporting shows that tour bus counts are increasing, and unfettered tour bus access poses challenges for congestion and impacts to roads and park amenities.

Tour bus licensing is a common practice in many parks around the world for a variety of reasons; this benefits park operations as well as the tour bus industry. Currently, commercial vehicle operators do not require a licence to access the Stanley Park. In the Town of Banff, for example, businesses in the transportation system are categorized by the number of vehicles owned; fees range from \$1,243.37 for businesses with one to two vehicles to \$24,867.27 for businesses with more than 50 vehicles.

Tour bus licensing could be considered as a measure in Stanley Park to maintain a reasonable level of congestion and access for tour buses, as well as a measure to offset potential losses in parking revenue. This would also enable the Park Board to collect data

on the tour bus operators, including understanding trends and where visitors are coming from locally and around the world. Maintaining a reasonable level of tour bus access ensures demand remains for tour bus operators and provides assurances where providers could enter into an agreement with the Park Board to ensure access for a specified and contracted amount of time. Operators could also be considered to provide shuttle service to provide public mobility within Stanley Park, if transit planning takes longer or does not end up being fiscally viable.

6.3.6 Phase 1 Ongoing Studies

Alongside car-free days, this phase also includes completing several supporting studies to further analyze how a car-free Stanley Park Drive would impact park operations, businesses, and interest holders. Not including those which have been reported as part of this Mobility Study Report, these include:

1. **Detailed One-Lane Capacity Study** – While a preliminary analysis was conducted evaluating the capacity of a one-lane Stanley Park Drive, this analysis only accounted for the experiences of private vehicle drivers and capacity across the full system of Stanley Park. The localized impacts in select locations of a one-lane Stanley Park Drive on horse and carriage operations, emergency vehicles, and park operational vehicles need to be examined closely, with potential traffic design changes and other interventions.
2. **Monitoring of Parking Data during Car-Free Pilots** – While a preliminary analysis was conducted to evaluate the potential loss in parking revenue due to fewer parking lots, observed data would provide more accuracy. Monitoring of parking data during car-free pilots could provide this data for analysis.
3. **Bidirectional Stanley Park Drive Traffic Study** – A potential source of efficiency with the Stanley Park transportation network lies in directionality. Stanley Park Drive could potentially be made two-way (bidirectional) to allow visitors to access their destination more directly. Practically speaking, only Options A and B could viably entertain bidirectional travel, as they are the options that maintain two lanes of vehicle travel. However, feedback from the public engagement process showed that there is a strong attachment to, and nostalgia for, a unidirectional perimeter experience. In addition, historically, bidirectional travel has caused major issues in the summer peak periods, such as when two-way travel was implemented from Ceperley Meadow up to Third Beach at the request of the Teahouse; piloted in the summer of 1989, it caused significant delays

for vehicles. Further work should be done to assess the benefits of bidirectional travel relative to its cost (in terms of park experience and congestion during peak periods).

4. Business Visitation Impact Analysis – As noted in the Considerations section, impacts on businesses need to be better understood. Case studies from around the world show that reducing vehicle travel in major urban parks can have short-term impacts but longer-term benefits for businesses such as restaurants or other attractions. A localized Stanley Park assessment is required where data is only truly reliable through piloting. Impacts on businesses will be assessed through a Business Visitation Impact Analysis, including the following framework and diagnostic questions as a post-operative analysis to the car-free pilot days:

- *What was implemented to support visitation to business?*
- *What was the outcome?*
- *What was the change in visitation?*
- *How did people travel to the business?*
- *How did this impact revenue generation?*
- *And other questions developed in collaboration with businesses and through the summer implementation phase of piloting of car-free days.*

5. Ceperley Meadow Transportation Analysis

– The road, cycling, and pedestrian pathway network in the Ceperley Meadow area is the most complicated part of the Stanley Park transportation network. With multiple modes converging into a variety of nodal intersections, key destinations, and the western gateway to Stanley Park, any solutions for this area will take time and require intricate planning within the broader system. This includes connectivity with the West End neighbourhood and whatever the conditions may be on Beach Avenue.

A more detailed transportation plan zooming in on the Ceperley Meadow area is required; this will benefit greatly from the testing of Phase 1 actions in the strategy (including pilots for car-free days, micromobility, and transit) to determine the best solution for Ceperley Meadow.

Cyclist on Stanley Park Seawall (Photo by Emily Holmes)



6.4 Phase 2: Establishing Mobility Directions

The pilots, engagement work, and data analysis coming from Phase 1 will help provide a very clear understanding of what the best direction may be for Phase 2. For example, if it is found that implementing more regularly occurring vehicle-restricted times is desired, then implementation of Option A (Vehicle Time-Based Restrictions) Stream One could be a viable choice at that time. However, if more cycling infrastructure on Stanley Park Drive at all times is desired, and localized issues of congestion on Stanley Park Drive for emergency and operational vehicles are adequately addressed, then Stream Two could be a viable choice. All of the work completed in Phase 1 will be critical in the formation of sound decisions for Critical Decision Point 1, enabling the start of the next phase: Phase 2. Once a stream is chosen at Critical Decision Point 1, several supporting actions are triggered, depending on the chosen stream, as shown in **Figure 6.10**.

In this phase, planning of central parking infrastructure will commence, following monitoring of parking data during car-free pilots. The tour bus licensing program is expected to be active at this point, and transit planning with TransLink is expected to be completed within the same phase.

If Stream Two is chosen, work on bike lane design and planning for its construction would commence, along with time-based vehicle access restrictions. This would allow the Park Board to implement bike lanes in the future.

6.4.1 Exploration of Centralized (or Consolidated) Parking Areas

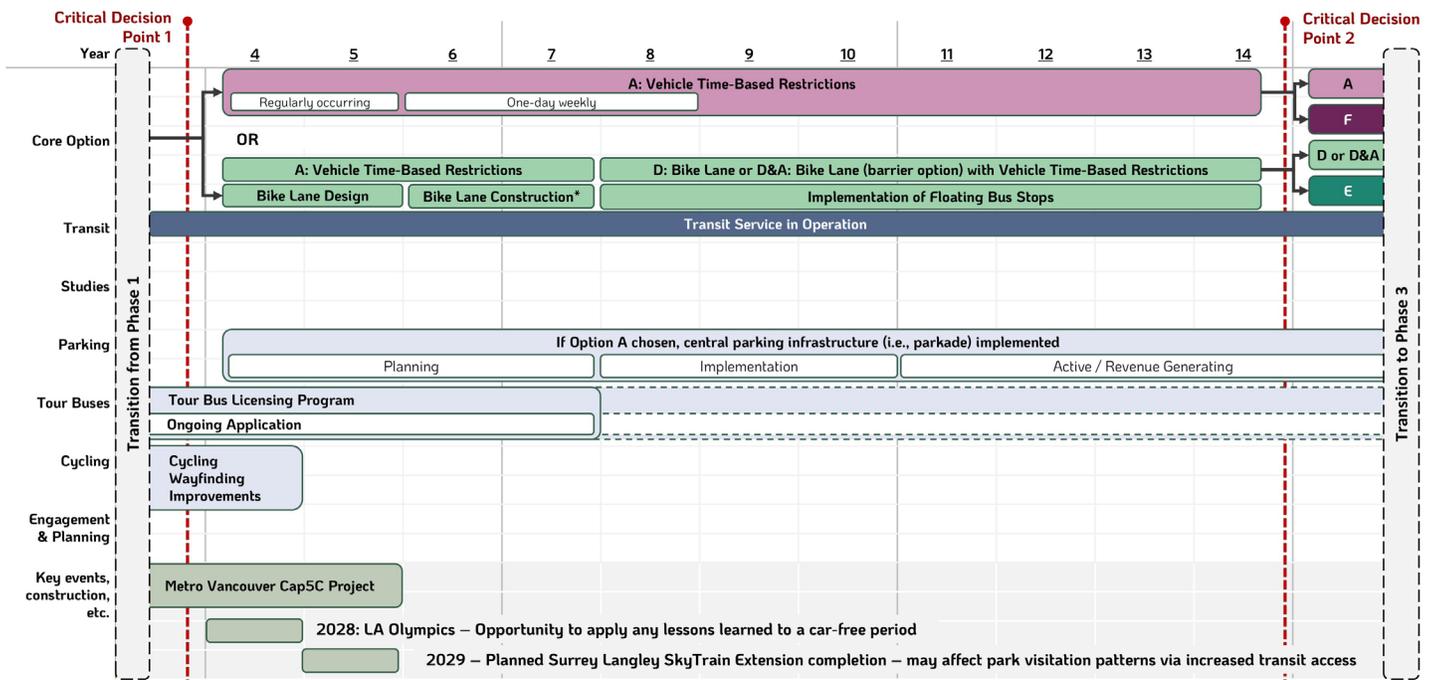
If time-based vehicle access restrictions become more common, or if another form of car-free option is implemented, implementing centralized or consolidated arrangement of parking lots could help maintain parking revenue while also maintaining a level of access for those who require motor vehicles to access the park. Centralized or other consolidated arrangements of parking lots provide an area that people who drive to Stanley Park can utilize before shifting to a different mode to travel around the park.

The planning phase to consider centralized parking areas can be done in parallel with ongoing engagement with relevant interest holders. This continued engagement will help identify creative solutions to maintain or improve the park experience for those who currently depend on vehicle access.

The following centralized or otherwise consolidated parking areas have potential to be implemented:

1. Inside Stanley Park, by expanding provision at existing parking lots into a consolidated and centralized parking area.
2. At the border of Stanley Park and downtown Vancouver, using existing underground parking lots with residual capacity (particularly on weekends) situated at facilities owned by the Park Board or the City of Vancouver.

Figure 6.10: Miniature Form of Phase 2 of the Implementation Program*



*NOTE: All Implementation Phase 2 tasks subject to funding approval.

Inside Stanley Park

Within Stanley Park, a parking zone could be considered in centralized areas, such as the one near Pipeline Road. This is due to the following:

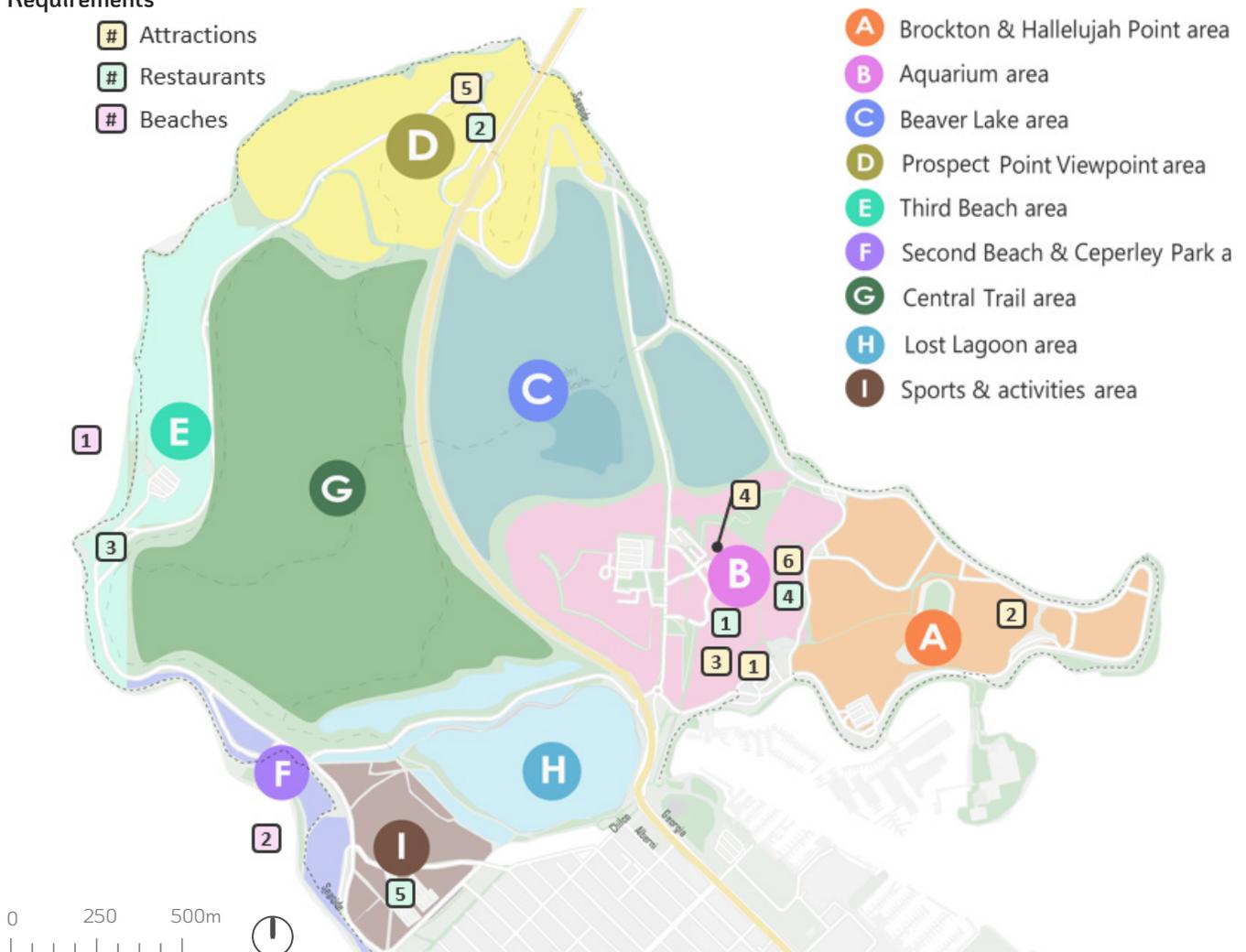
1. None of the six shortlisted preliminary options conflict with Pipeline Road being maintained as a route for private vehicle access to the Aquarium, the Stanley Park Pavilion, the Train, and other key attractions.
2. There are two large existing surface parking lots adjacent to Pipeline Road.
3. Parking demand is concentrated on the eastern side of the park, and implementing a centralized parking area adjacent to Pipeline Road would maintain reasonable access to attractions on the eastern side of the park.
4. An existing bus terminal is situated adjacent to Pipeline Road. This accommodates TransLink service (19 buses), and has the potential to be utilized by accessible shuttles, which could take car park users to other areas of the park.

Pipeline Road Access

Pipeline Road provides a unique opportunity that could be leveraged for mobility within Stanley Park. Located in the eastern side of the park, it is close to key destinations of the park and allows visitors to walk or roll to their destination. In addition, there are two large parking lots that could be expanded to accommodate expected demand.

Figure 6.11 shows, at a high level, the arrangement of key destinations in proximity to Pipeline Road. Similar to existing conditions, travellers may access Pipeline Road through the Stanley Park Causeway. To minimize congestion related to U-turning movements, Rose Garden Lane could maintain a way for visitors to access the Train parking lot and change direction.

Figure 6.11: Concept General Arrangement Plan Showing Potential Vehicle Parking, Turning Area & Spatial Requirements



Connection to Key Central Destinations

Zooming in a little closer to the key destinations in this area, the map in **Figure 6.12** below shows how these destinations are arranged with respect to current pedestrian access, including from Pipeline Road to the Aquarium. There are four footpaths that currently connect Pipeline Road to the Aquarium; these footpaths each provide access to at least one point of interest. Based on Google Maps, footpath 1 provides access to the Stanley Park Train, footpath 2 provides access to the Historic Stanley Park Bus Loop, footpath 3 provides access to Stanley’s Bar & Grill and Malkin Bowl, and footpath 4 provides access to the Lord Stanley Memorial Monument. There is potential in the short term to provide improved pedestrian and cycling connections to the Aquarium, alongside any improvements the Aquarium is planning for the building exterior entrances.

Long-Term Connection to Key Central Destinations

As demonstrated in earlier sections, the Aquarium is the most utilized destination accessed by vehicles in the park today, but access to the Aquarium by shuttle would involve the need for road paving. However, any consideration as to how vehicle access to the Aquarium could be maintained in the future could make that option more realistic and ideal. That access might be more viable from Pipeline Road for multiple reasons, as described below and as noted in **Figure 6.13** on the following page:

- The current access to the Aquarium via Stanley Park Drive results in a considerable proportion traffic on Stanley Park Drive on summer weekends between the entrance at the roundabout and Avison Way. And, due to the configuration of Stanley Park Drive and Avison Way, access to the Aquarium involves a much larger proportion of road length. A shorter access point to the Aquarium from Pipeline Road would be more efficient and would use considerably less road length and less paving. This would provide an overall much more efficient road system.
- More urgently, based on sea level rise analysis, the sections of Stanley Park Drive that are used

Figure 6.12: Current Pedestrian Connections to the Vancouver Aquarium



Source: Google Maps, annotated by Mott MacDonald

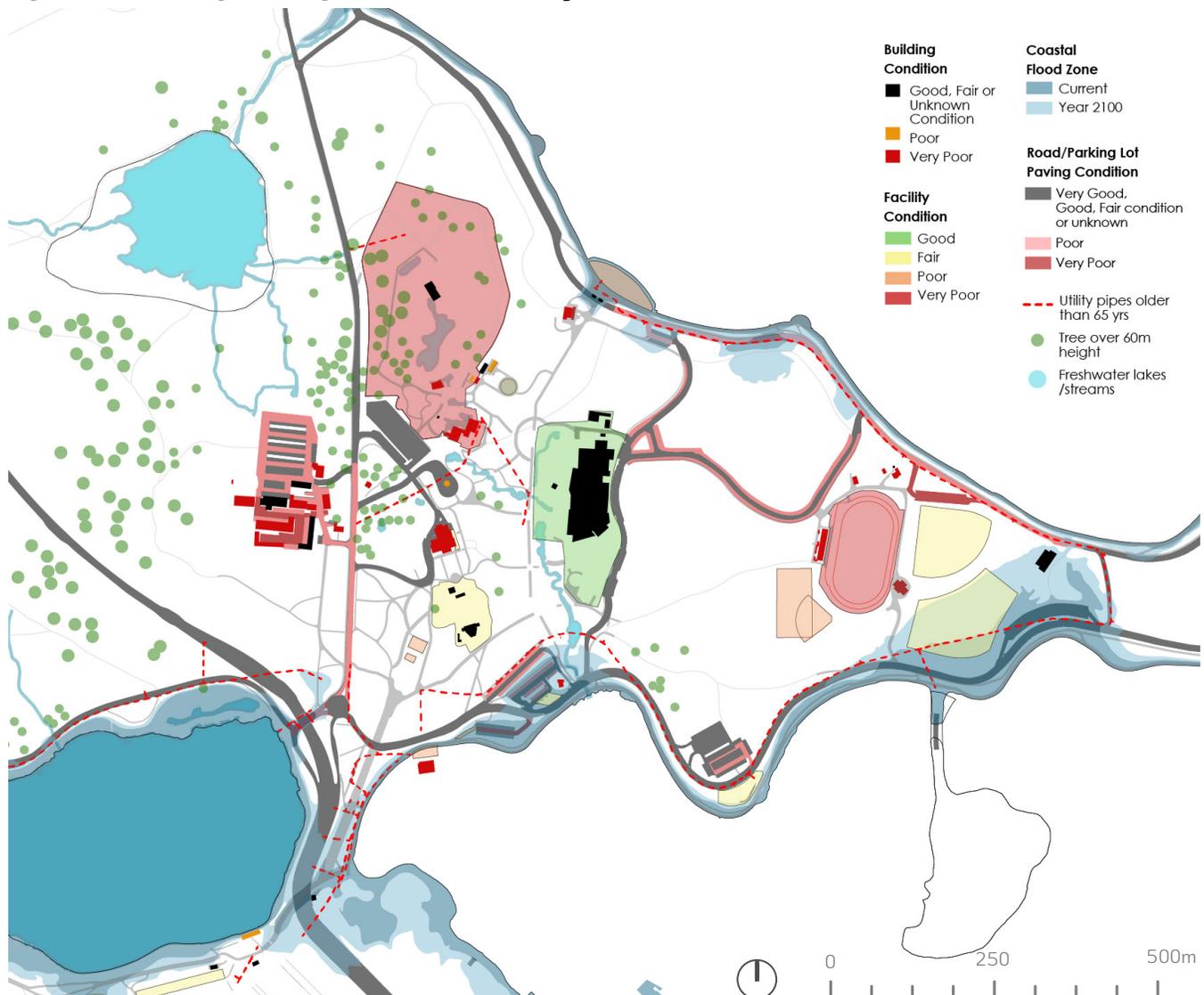
to access the Aquarium (at the intersection of Stanley Park Drive and Avison Way), are low-lying areas that will be within the coastal flooding zones within 75 years.

- The Vancouver Aquarium is also considering future upgrades to how the Aquarium building is accessed; those improvements could be aligned with a reimagined road access network.
- Also, there are other major upgrades in the surrounding park area that will be needed long-term that call for a renewed park plan for this area, in concert with the Stanley Park Comprehensive plan:
 - There are several major utilities that are over 65 years of age that will require upgrading.
 - There are parking lot areas, such as the Works Yard and the Aquarium, with paving conditions in very poor condition.

- The Stanley Park Train is in dire need of major investment in its infrastructure, and will likely involve or benefit from a renewed plan for the area.
- Of all the trees that are over 60 metres in Stanley Park, a large proportion of them are located within this area of the park, and are currently situated in compacted road areas with less-than-ideal growing conditions. A new plan and vision for this area of the park could include balancing paving access with providing more open/forested space for these valuable trees in Stanley Park to thrive long into the future.

Any future option that reduces vehicle travel along Stanley Park Drive would still need to provide access to vehicles for emergencies and park operations, and access for the Department of National Defence to Deadman’s Island, and for members of the private Royal Vancouver Yacht Club.

Figure 6.13: Challenges & Long-Term Needs of Stanley Park Destination Areas



Potential for Increased Parking Capacity

Currently, there are two parking lots adjacent to Pipeline Road that have some potential to be expanded vertically,²³ which would provide additional capacity to accommodate a portion of the current parking demand. The Service Yard lot provides 133 parking spaces (six of which are accessible), whereas the Train lot provides 185 parking spaces (six of which are accessible). From a review of the 2019 parking lot entry data, it is recorded that the maximum number of hourly entries for all parking lots is 738.

It is noted that, to preserve the park experience and maintain the natural aesthetic of the park, any new

structure would not typically exceed the height of the tree canopy surrounding the structure. Based on LiDAR data, the City of Vancouver reports that trees around these two parking lots measure at minimum around 30 metres.²⁴ Conservatively, it was assumed that one storey of a parking lot structure would measure around 5 metres and a six-storey parking structure would measure around 30 metres.

If 15% of the area available for parking stalls is lost to ramps and the other features of a multi-storey parking lot, the estimated number of stalls available for different parking lot heights is given in **Table 6.3** below.

Figure 6.14: Parking Lots Along Pipeline Road that May Be Expanded Vertically

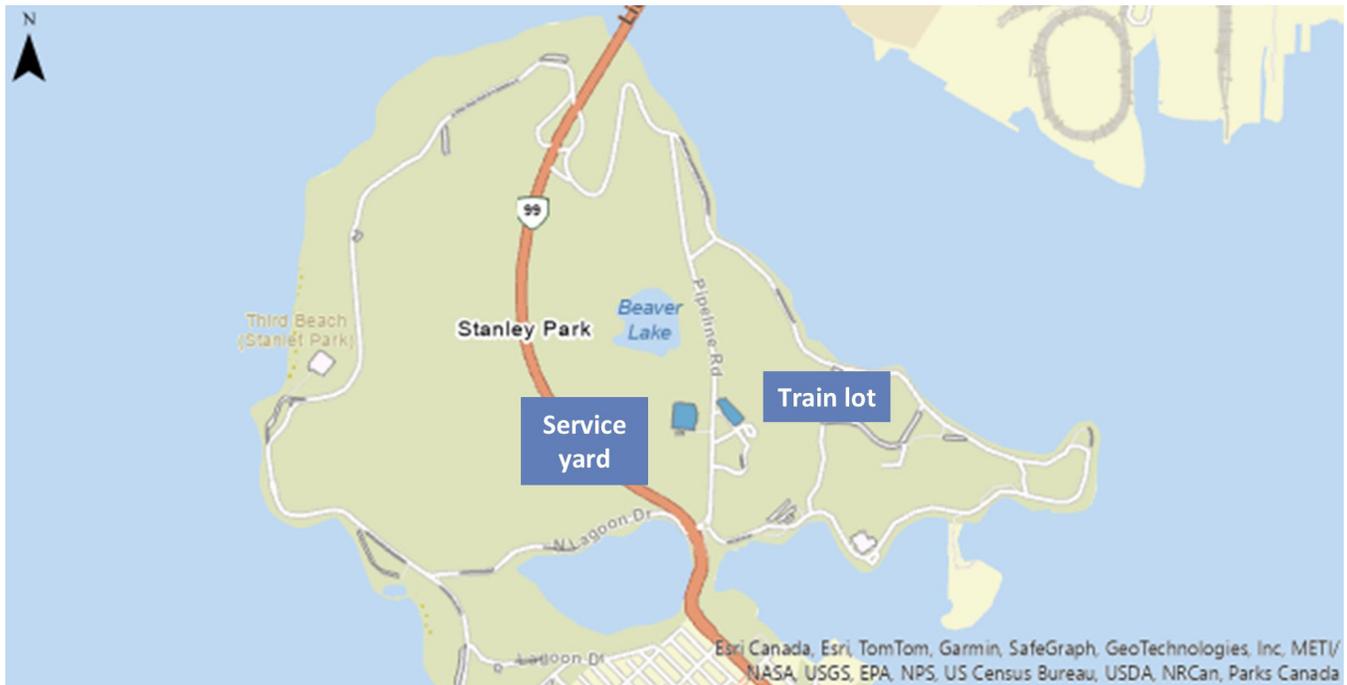


Table 6.3: Estimated Number of Stalls for a Multi-Storey Parking Lot

Stories	Height (m)	# of Stalls at Service Yard		# of Stalls at Train Lot		Total
		Standard	Accessible	Standard	Accessible	
1	5	106	6	150	6	268
2	10	212	12	300	12	536
3	15	318	18	450	18	804
4	20	424	24	600	24	1,072
5	25	530	30	750	30	1,340
6	30	636	36	900	36	1,608

²³ In line with the guiding principle “reduce Impacts on environment”, horizontal expansion has limited potential, as it would involve the removal of trees, which may be considered as an undesirable environmental impact.

²⁴ See figure 12 in the 2022 Vancouver Tree Canopy Assessment, link: <https://vancouver.ca/files/cov/vancouver-tree-canopy-assessment-2022.pdf>

A six-storey (30-metre high) parking lot could handle 2.45 times the peak hourly entries recorded in 2019. Once operational, it would generate parking revenue for the Park Board. However, the design and construction costs would be substantial. Further analysis is needed to assess feasibility, considering parking pricing models and the costs of designing, building, and maintaining the structure.

A multi-storey structure could be implemented temporarily or permanently. A temporary, modular structure would allow the Park Board to further assess how visitors change their behaviour as parking provisions, pricing, and other changes to the park are implemented. Such structures have been implemented in Canada and abroad. One example of such is discussed in a case study from St. Lambert, Quebec,²⁵ where prefabricated parking structure components were used to assemble an additional storey of parking on top of an existing paved parking lot. The firm responsible for the structure, Corbec, reports that such structures are quick to design and build. The project in Quebec reportedly was completed in only one month, “from the design assessment and the galvanizing of the pieces to the last shipment to the site”. However, such structures are rarely visually appealing, making architectural design and landscaping crucial considerations.

In the case of a permanent structure, if parking demand notably decreases over time, the Park Board may be left with an underused asset with an ongoing and potentially costly maintenance commitment, or a requirement for decommissioning and demolition, again with financial implications. However, the demand for parking space in downtown Vancouver and Stanley Park for film and other events is consistently high, and such a structure could provide capacity for this otherwise unmet need. A parking structure could also be designed for potential repurposing for an alternative land use at a later stage. The feasibility of this is worth exploring further.

Note that this preliminary analysis provided here does not incorporate any structural or geotechnical considerations in constructing a parking structure, whether temporary or permanent. Physical limitations related to structural and geotechnical engineering would limit the number of spaces that the Park Board may provide through a centralized parking lot system.

Given that both the Service Yard and Train parking lots are accessed through Pipeline Road, this does not affect the primary study objective to maintain a car-free Stanley Park Drive, and it potentially allows the Park Board to meet the demand of those who currently use parking lots in Stanley Park without detrimentally impacting the park experience.

A connecting park shuttle or transit service would need to be implemented alongside this parking scheme to enable persons with disabilities to access their chosen destination. Similar parking and transit systems are being established at destination parks and areas across North America and around the world to provide access while ensuring protection of natural areas.

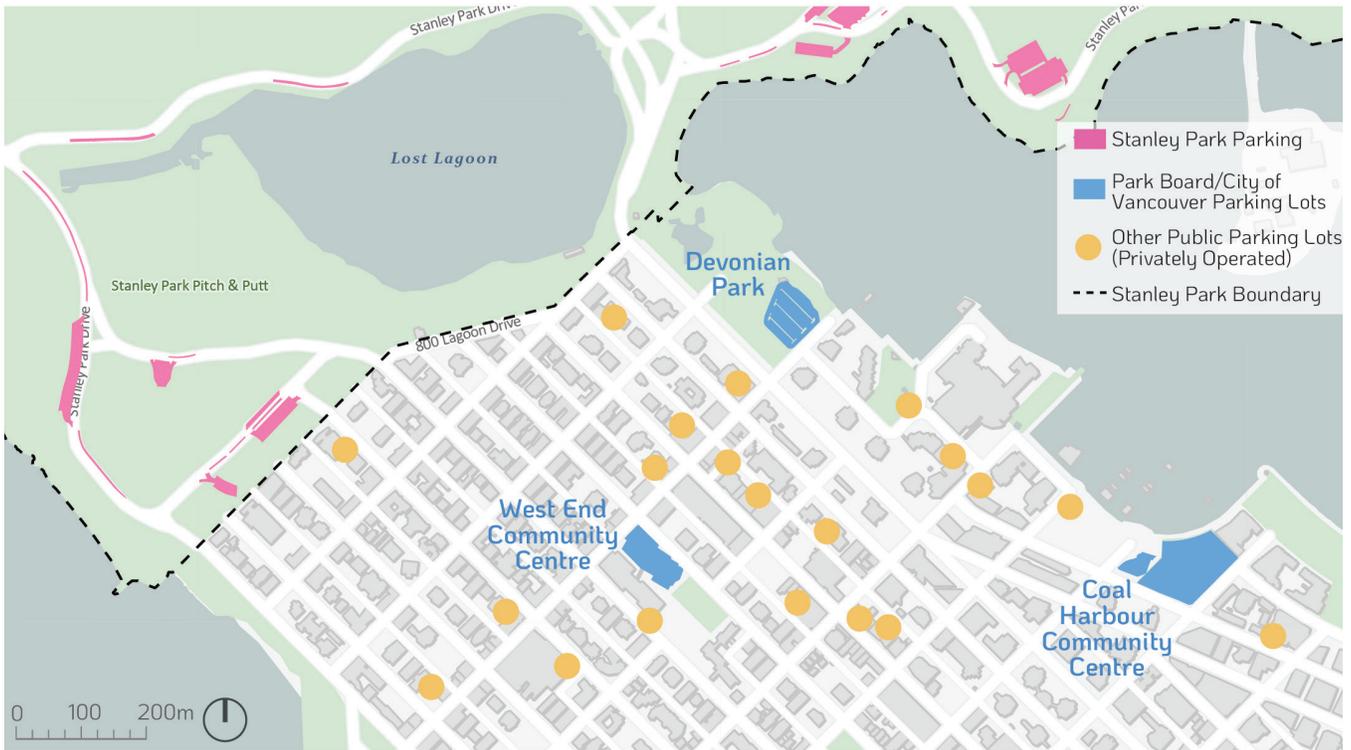
²⁵ <https://www.corbec.com/projects/hambro-portable-parking-structure-5>

Outside Stanley Park

Outside Stanley Park, there may be some opportunities to use existing Park Board and City of Vancouver facilities. A review of Park Board and City of Vancouver parking lots in the West End suggest there are parking locations under Park Board and City of Vancouver operations. For example, there is a surface parking lot at Devonian Park and a parkade structure at the West End Community Centre, both in close proximity to Stanley Park, as depicted in **Figure 6.15** below.

A review of Parkopedia information (parking lot locations and costs) suggests that there are several parking lots along West Georgia Street, and there is precedent of private businesses offering parking for members of the public outside of typical office hours. For instance, in Seattle, Washington, Amazon allows free public access on weekday nights and weekends.²⁶ This could indicate an opportunity for the Park Board to explore providing parking for park visitors during off-peak periods.

Figure 6.15: Outside Stanley Park Parking Lot Map



Source: https://en.parkopedia.com/parking/locations/vancouver_british_columbia_canada_bfecc2b2nrwmpv34f3/?arriving=202410071630&leaving=202410071830

²⁶ <https://www.discoverlu.com/location/amazon-doppler-parking-garage/>

6.5 Phase 3: Long-Term Mobility Vision

Phase 3 represents the long-term outcome from decisions made after the work of Phase 1 and 2 is complete, enabling sound and strategic decisions to be made. The detailed phasing plan for Phase 3 is shown below in **Figure 6.16**.

6.5.1 Critical Decision Points

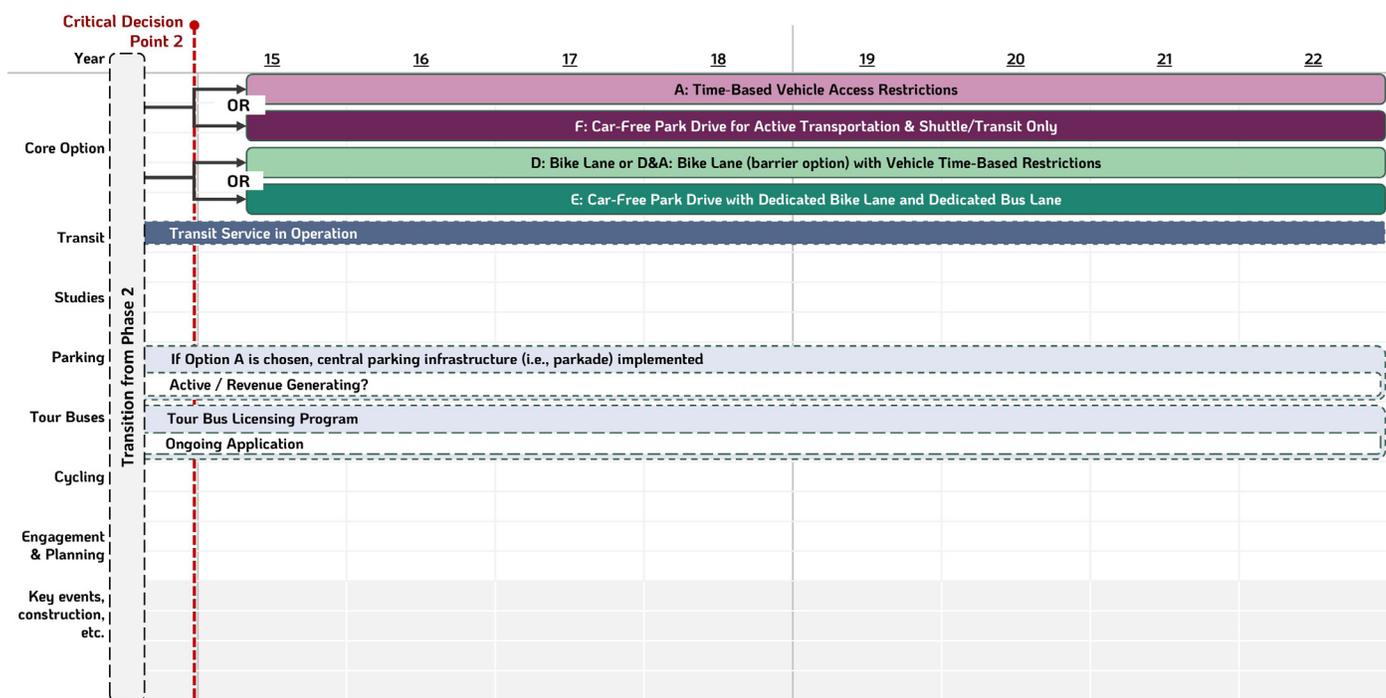
At this point in time, either Option A (Time-Based Vehicle Access Restrictions), which would restrict vehicles on regularly occurring days of the week or weekends, or Option D (Park Drive with a Dedicated Bike Lane) will have been implemented in the park. This will have provided significant data in the form of traffic analysis, public engagement, interest holder feedback, and testing of scenarios and analysis.

This planning work will enable sound decisions to be made about either preserving the option that will be in place at that time, or evolving the transportation system to the car-free scenario that has long been desired by residents.



Siwash Rock, Stanley Park (Photo by Emily Holmes)

Figure 6.16: Detailed Diagram of Phase 3 of the Implementation Program*



*NOTE: All Implementation Phase 3 tasks subject to funding approval.

6.5.2 Potential Transition to Car-Free Options

If a fully reliable, accessible, and affordable shuttle or transit service is in full operation, and if a plan for alternative revenue sources for parking impacts is in place and underway, then a future potential scenario of moving to a car-free option could be realized. However, what form of car-free option and what that looks like would be dependent upon which options will have already been in place at this time. The following section provides an overview of which options would be able to transition to which car-free options and how.

Option A Transition to Option F Scenario

If the selection was made at Critical Decision Point #1 during Phase 2 to implement **Option A (Time-Based Vehicle Access Restrictions)** on regularly occurring days of the week or weekends, Stanley Park Drive will be free of any infrastructure down the centre of Park Drive. The only infrastructure required will be at the entrances for the prevention of access by motorists during restricted times only, and for the control via checkpoints for delivery, operations, and emergency vehicles. This “entry/exit” gateway infrastructure will be highly beneficial, should the decision be made to move into a car-free scenario. Without a separated bike lane down Park Drive, the transition to **Option F (Car-Free Park Drive with Active Transportation & Shuttle/Transit Only)** would be relatively straightforward in terms of construction on Stanley Park Drive. The major shift or change would be any actions coming out of the plan for repurposing parking around the park, should a car-free option be implemented. As depicted in **Figure**

6.17 below, transitioning from Option A to Option F would require line painting to depict dedicated cycling routes and a yellow centre line to enable two-way cycling if desired, given that the width of the road would be much wider than the typical AAA cycling infrastructure.

Option D Transition to Option E Scenario

If the selection was made at Critical Decision Point #1 during Phase 2 to develop **Option D (Park Drive with Dedicated Bike Lane)**, then Stanley Park Drive by this point will likely have infrastructure in place down the centre of Park Drive to separate cyclists from motorists. This infrastructure will be dependent upon the detailed design for the bike lane, but will ensure a physical separation between modes with a barrier, divider, or raised section to create a facility that is comfortable for most. However, removing this infrastructure will be costly, and will take a significant amount of time, requiring unpopular closures of Stanley Park Drive. Should the decision be made at Critical Decision Point #2 to transition to a car-free transportation system, this infrastructure would be needed for **Option E (Dedicated Bike Lane and Dedicated Bus Lane)** and could be maintained, requiring little effort for construction on Stanley Park Drive. The larger change that would be required would be any actions coming out of the plan for repurposing parking around the park, should a car-free option such as Option E be implemented. As depicted in **Figure 6.18** below, transitioning from Option D to Option E would require very little work on Stanley Park Drive to accommodate this new car-free option.

Figure 6.17: Transition to Car-Free: from Option A to Option F

Stanley Park Drive towards Lumberman’s Arch

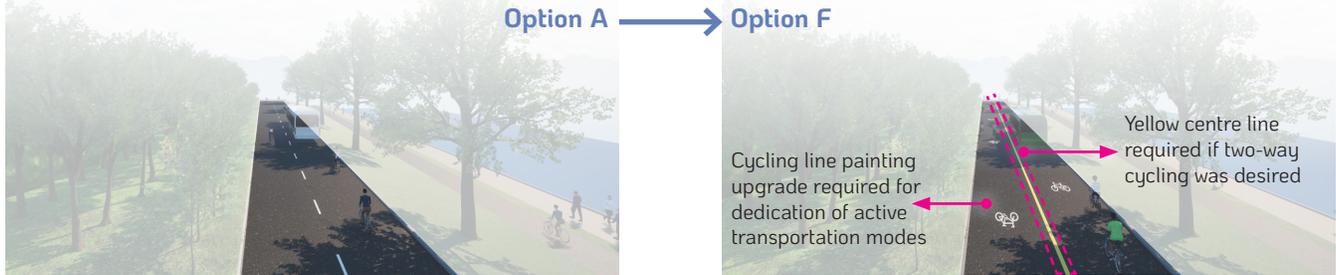


Figure 6.18: Transition to Car-Free: from Option D to Option E

Stanley Park Drive towards Ferguson Point



6.5.3 Future of Parking

Either of the scenarios listed above require plans to be in place to 1) offset the approximately \$5 million of annual revenue that is generated from parking in Stanley Park, and 2) consider how parking lot areas in Stanley Park (just over 2,400 parking stalls that amount to approximately 50,000 square metres) could be repurposed for other uses, or restored to natural habitat supporting the ecosystems of Stanley Park. Therefore, Critical Decision Point #2 enables Phase 3 to begin after this work is complete and actions are identified.

At this point in the phasing strategy, a full analysis, design, and cost will be completed for a potentially enhanced centralized parking area, along with a full-service shuttle and transit connection to enable users to travel around Stanley Park using motorized means.

It should also be noted that this effort would be timely, as at this time of Phase 2, mobility might look much different in cities and in parks. With the expected rise in autonomous and electric vehicles, there is an expectation for higher availability and use of car-sharing and car-on-demand services that pick people up and drop them off in between other trips, and less vehicles being stored in parking lots.

6.5.4 Comprehensive Plan & 100-Year Vision for Stanley Park

Stanley Park is a significant place to the Musqueam, Squamish, and Tsleil-Waututh Nations. It is their home, and has been for thousands of years. They travelled by water and by land, using sustainable methods. How the Nations used Stanley Park and how it can inform future planning is currently being explored through the Stanley Park Comprehensive Plan. The purpose of the Plan is to provide a 100-year vision and plan for managing the park's future and resilience for generations to come. The benefit of this phased strategy enables alignment with mobility in Stanley Park in alignment with the Comprehensive Plan, which will be completed during Phase 2 of the Mobility Study's phasing strategy. This will also provide clear principles and direction for Stanley Park's overall future in terms of its evolution and management.

6.5.5 Conclusion

Founded on a robust and comprehensive analysis of mobility patterns, combined with the results of an extensive engagement process, this phasing strategy provides a vision for what Stanley Park might look like in the coming years. Mobility in Stanley Park is complex, but this phased and strategic approach ensures and provides a systematic way to move through the complexity, providing an overall plan while enabling detailed actions to build evidence-based ideas and support future important decisions along the way.

The potential move to make Stanley Park car-free has been identified in previous transportation studies and in the dialogue of the community for over five decades. It's something that is often talked about but never realized. The truth is that car-free options in Stanley Park are highly complex and have a long list of challenges and barriers. However, based on historical studies of transportation in Stanley Park, and through past public engagement, it is clear that the public still favours options that reduce private vehicle access and there is significant public support for a car-free vision for the future. This consistent perspective, as well as further analysis in this Mobility Study, shows that these challenges and barriers to car-free options are worth exploring; however, a strategic, long-term, and planned approach is required.

More than anything, this study has shown the passion that the public continues to have, both for protecting and for experiencing Stanley Park. With Vancouver densifying and tourism bouncing back from the pandemic to higher levels than ever before, mobility has never been more important in Stanley Park and, at the very least, deserves thoughtful, scientific, and systematic approaches and ongoing attention.

Stanley Park Seawall Aerial View, photo by Kyle Thacker on Unsplash

“According to Park Board surveys in 1992, only a minority of people are willing to ban private cars from the park. However, their numbers will rise. Increasing urbanization of the region, with frequent side effects of congestion and pollution, is bound to have an impact on people’s appreciation of a park free of such problems. The more the region densifies, the stronger the call for a car-free park will become.”

– Stanley Park Transportation & Recreation Report (1996)



Appendices

(see separate appendices document)

- A Options Long List
- B Indicators Analysis
- C Options Evaluation Scoring
- D Complementary Options Scoring
- E Parking Analysis
- F Major Destinations Access Analysis
- G Commercial Vehicle (Tour Bus) Analysis
- H Transit & Shuttle Analysis
- I One-Lane Capacity Analysis
- J Options Cost Estimates
- K Phasing Strategy Diagrams
- L Phase 1 and 2 Engagement Summary
- M Phase 3 and 4 Engagement Summary

